

MICHIGAN FARMER

and STATE JOURNAL of AGRICULTURE.

The Only Agricultural and Live Stock Journal in the State.

VOL XXXIII.
NO. 2.

DETROIT, SATURDAY, JAN. 8, 1898.

PRICE 5 CENTS.
\$1 per Year.

Farm Department.

Conducted by J. H. Brown, who lives on his farm at Climax, Mich., which is conducted as the Michigan Farmer Experiment Farm. All correspondence for this department should be sent to Climax, Mich.

THE EDITOR'S FARM NOTES.

ANOTHER PHASE OF FARMING.
Bookkeeping and letter writing on the farm have had little attention from our correspondents, and this is a matter that should be frequently agitated.

It pays to keep some sort of an "account" of one's receipts and expenditures, and of all daily transactions on the farm as well as in any other business. Yet there is no one who so fails to keep an accurate and full account of all business transactions as does the average farmer.

The average progressive farmer (and that is the man who reads this paper), does keep some sort of an account, but the "average" farmer does not. He depends too much on memory, and occasionally his memory fails at a time when most needed.

Almost any farmer can keep a simple form of accounts, and it is only because he does not believe in so much fussing, or "red tape," that many a farmer fails to keep up the practice even after he has begun.

In traveling through the country we meet thousands of brother farmers who read the agricultural papers, belong to some farm organization, and are very progressive and practical in all their methods.

We have taken pains to inquire into this matter, and have found that these farmers very generally keep some form of accounts and know just how they "stand" from day to day. Some have shown us their little day books or journals, their memorandum books, etc., and we wish the average farmer followed some such plan more generally than at present.

At some of our State farmers' institutes which the writer has recently conducted in the northern counties, friend C. B. Charles, of Van Buren county, talked on "Farm Accounts," and very plainly and concisely stated his plan of keeping them. We fully agree with him in all that he had to say, and we have used a similar system for many years.

That one talk of friend Charles' is worth a great deal to the farmers at every institute, and we hope for good results in every community where this talk is given.

The most important thing to do in keeping accounts is to carry some sort of a small blank book in the pocket, constantly, to enter all items and transactions in the order of their occurrence.

It does not matter so much as to just how the entry is worded, if it is only entered at the time. It takes but a moment to make the entry in the day book, and this duty should be rigidly practiced every time and at the proper time.

By all means keep some sort of a day book or journal, if you keep nothing else. In fact, it is not really necessary to keep any other book, if a proper and complete memorandum is made in the day book from day to day. It is a great satisfaction to us to keep such "accounts," and we could not think of dropping the practice.

BUSINESS LETTERS.

Another plan we wish to endorse is that of copying all business letters. Some of us may not write many "business" letters in the course of a year, but, no matter how few or how many are written, they should be copied. Why?

Sometimes a farmer writes a letter to a stock breeder, to a merchant, or a manufacturer, ordering some stock or goods, giving certain specifications as to what is wanted, terms, and other conditions.

He makes no copy of the letter or letters, and if any trouble arises as to any of the conditions to be noted, on either side, the farmer has no copy of his correspondence to refer to to prove just what he did write or specify.

We know of scores of such instances among farmers of our acquaintance, and also where bills have been paid the second time, simply because no copy of the correspondence was kept. We also know of several cases where farmers were naturally led to keeping a letter copying book after losing enough money to pay for several letter books and copying presses.

For a long time we used a letter copying book that cost less than a dollar, and had no copying press. The leaves were of tissue paper and the book had limp cloth covers. Heavy books were used for weights, and very fair copies of letters were taken as follows:

The first blank leaf of tissue paper was lifted up, and the letter to be copied was slipped underneath, right side up. Under the letter was placed a sheet of extra heavy manilla paper.

Over the top of the sheet of tissue paper was spread a cloth (the size of the sheets), that had been wrung out of a water bath. This should not be too wet. Over the damp cloth was placed another sheet of manilla paper. The book was then closed and ready for pressure.

It took but a few moments to secure a good copy on the sheet of tissue paper. The copy of the letter was read on the side opposite from which the imprint was made.

Since our correspondence became so large we have used a regular copying book and copying press. We also use a typewriter. But for a long time we wrote with a pen, and used copying fluid or ink, in order to obtain a good impression on the sheets of tissue paper.

It most certainly would pay thousands of farmers throughout the country to keep copies of all business letters, and we find quite a large number of stock breeders are doing so. Let the good work go on.

For The Michigan Farmer.
FALL PLOWING FOR CORN.

On page 374, issue Nov. 20, Mr. Follmer says: "Fall plowing allows the ground to settle and makes it firmer underneath the seed than spring plowing can be made. All the cavities made by the plow in turning over sod become closed," etc.

This would be good logic in preparing a seedbed for wheat, but for corn culture we are inclined to take a different view. Such land as Friend Cowdrey's and some of our own (if plowed in the fall) is liable, before corn planting, to become too firm and heavy for planting.

In order to raise a crop of corn in this latitude the first requisite is to make the ground fine, dry and warm enough to germinate the seed and get the plants well started. This may be accomplished by frequently stirring and turning the soil in the sun, and the more cavities made by the plow the better.

These cavities serve as substitutes for underdrains. They render the soil porous and friable. By their aid the young rootlets penetrate deeper and thereby assimilate a greater amount of the plant food than would be possible if the seedbed was firm and compact beneath.

The writer has frequently seen corn come to a "standstill" in consequence of the ground becoming too cold and heavy after a soaking rain. And thus it generally remains until the soil is lifted or turned by the cultivator and exposed to the air and the rays of the sun.

Clinton Co., Mich. A. MATTHEWS.
(On heavy soil we should prefer to plow in the spring, taking all conditions into consideration. But if more convenient to do some of the plowing in the fall, we should do so, and then thoroughly dig up the furrows in the spring by using a disc harrow.—Ed.)

FARM EXPERIMENTS.

It is no disparagement to the work of our different experiment stations to say that there is a kind of investigation which they can never perform. The principles on which successful farm practice must depend may be properly and effectively studied by these institutions, but in the practical application of the results thus secured there remains much which can only be successfully accomplished on the very farm to which the principles are to be applied. The infinite variety of soil and climatic conditions to which all crops are necessarily subjected, the wide differences which even individual farms offer, preclude the possibility of securing in any one locality the detail of data which shall control successful practice in all other localities and farms of the same political division. Upland and lowland, sand and clay, hard wood lands, and pine lands, dry lands and wet lands, all offer local pe-

cularities demanding variations of practical treatment which cannot be studied under opposite conditions and which render the results obtained under one condition wholly inapplicable to another.

It seems therefore obvious that our official stations should devote a larger part of their efforts to the elucidation of principles and to the development of schemes and systems for private investigation and less time to the routine of plot trials and variety tests, which can have only local application and many of which are better and more effectively conducted by parties whose commercial interests are involved.

To illustrate, the opinion or judgment of a reliable nurseryman or seedsman, always obtained as a result of personal experience and trial, is usually a safer guide to the selection of trees, plants, seeds and fruits adapted to the locality in which he is located, does business and has financial interests, than any advice furnished on the same points by the experiment station located possibly miles away, and with soils and climatic conditions quite different from those involved.

It is not possible to suggest a plan of individual experimentation which shall be universally applicable, but a few suggestions as to the conditions to be met and the methods best calculated to secure trustworthy and useful results seem feasible.

The location should be as nearly as possible the average soil of the farm, as convenient of access as possible and with an even aspect and drainage. The area devoted to the purpose must be controlled by the extent of the work contemplated. The site should be carefully divided and measured into plots, between which vacant spaces of not less than three feet in width must be left to prevent as much as possible the effects of the treatment of one plot from affecting the results of its adjoining neighbors. The size of these plots will chiefly control not only the area required, but also the reliability of results. The common mistake in opinion and practice is that of too large plots. Really, the smaller the plots up to the minimum of practical working with farm methods and implements the better—1-10 acre may be given as a maximum area and 1-100 acre is probably a better and possibly the minimum feasible size of plot. The reason for this fact is not far to seek. Results must all be based on averages, and it must be obvious that 100 trials on 100 plots occupying an acre of ground will give greater probability of average correctness of conclusion than though the results were secured from a single trial occupying the entire acre.

The nature of the experiments to be undertaken will commonly fall within three different groups. Variety trials, for testing promising novelties. Method tests, for the study of methods of cultivation and treatment, and last,

feeding experiments for testing the value of different forms, sources or mixtures of plant foods.

The first is doubtless the least important and the last class of experiments is that offering greatest prospect of definite and practical results to the experimenter. On this latter point a few suggestions may be useful. Under average conditions it is folly to devote time and funds to the effort at learning which of the three essentials, phosphoric acid, nitrogen or potash, when used alone, is most productive on any given soil. Economy dictates the use of all three; all average soils require all of them and the problem is in what proportions are the best crops produced. Probably the most complete line of fertilizer experiments undertaken in this country is that started in 1895 at the experimental farm of the North Carolina Horticultural Society, located at Southern Pines in that state. The work is under the immediate supervision of the State Agricultural Experiment Station, and the object is to determine the best method of manuring and cultivating fruits and vegetables. The experiment farms are practically in the center of a tract of many thousands of acres substantially the same so far as soil and climate are concerned. The system of fertilization adopted includes different combinations of phosphoric acid, potash and nitrogen as well as a study of the action of these food ingredients in different forms. The results from this farm will no doubt be of great value to the agriculturalists of this country.

H. E. STOCKBRIDGE.

For The Michigan Farmer.
AN OAKLAND COUNTY MAN'S MISTAKES.

I am glad that Mr. C. D. Sabin has opened the way so no one will feel embarrassed in reporting their failures as well as successes in farm life. No one need to put too much stress upon the fact that there are no failures reported, because it is a hard matter, even for farmers, to confess their ignorance.

They, perhaps, would not mind it so much in conversation as they would to have it put in print to receive the criticism of a cold world.

Now, in regard to who is a successful farmer. Should it be considered that dollars and cents measure the true value of a man, or should you in part estimate his worth by his deeds? Now, it seems to me, from what I know of human nature, that about as near to an utter failure as a man can come is to spend his life collecting and hoarding up every cent that he can lay claim to, and take his only comfort in counting over his securities. And, for instance, if you happen to be in conversation with him, just mention a high rate of interest and notice how quickly he will become interested. Such a man is an utter failure, so far as his real worth in a community is concerned.

Now, in regard to reporting our failures. I think I have made a big failure in not having more stock, such as cattle and sheep, on my farm this last summer, instead of cutting so much hay which there is no market for at anything like paying prices.

Of course there are certain circumstances surrounding the case that will partly excuse me, and one is that my fences were too badly out of repair to keep stock where they belong. In a few years I will have that remedied, if I keep on building wire fence, but the old rail fences are nearly useless.

Of course I should have kept these fences in repair or built new ones before, and not have allowed them to get in the shape they are. Then I could have put on more stock and have received more for my hay crop and at the same time reaped the benefit of feeding out on the farm.

All these things are what produce the failures in farming. The seemingly small details are where many failures come in as in larger matters. As the old saying goes, "Take care of the pennies and the dollars will take care of themselves."

Now, I have one more failure to report, and that is in the manner I put in my oat crop last spring. In the first place, the ground I was going to sow to oats was where I raised a good crop of potatoes the year before, and quite clean of weeds. So I concluded to put the spring-tooth cultivator on and work it up good and sow without plowing.

This is where I made a sad mistake, for there seemed to spring up so many weeds among the oats that I did not get much more than half a crop. That

has cured me of putting in a crop in that manner, as it does not pay.

My idea at the time was that in plowing in the fall I would have the clover sod, that was turned under for the potatoes, to turn up for the wheat to be sown on, but I do not like to entirely sacrifice my oat crop for the wheat crop, and will do so no more.

One other disadvantage is in cultivating the ground over in the spring. It makes terrible hard plowing in the fall, especially in a dry time like we

Oakland County, Mich. B. J. FULLER.

(We are glad to hear from friend Fuller, and want him to "come again." We can all learn and profit by some of the points emphasized in the above communication.—Ed.)

For The Michigan Farmer.
TIMOTHY SEED FAILED TO GROW.

I sowed timothy seed on new land recently where poplar brush had been burned, and intended to pasture it in 1898. This was in order that animals might browse the young brush while I would have those poplar stumps taken out during the summer.

I have since discovered, to my disadvantage, that the timothy seed did not catch, but was still lying on the ground where I had scattered it.

Would some reader of The Michigan Farmer please advise me whether this seed will be likely to grow next spring?

Huron County, Mich. W. E. McMULLEN.

CLEANLINESS AROUND THE HOME.

I have been going around the country a good deal of late and have made it a business to notice the condition of things around a good many farm houses as regards cleanliness and health. It is almost impossible to find one but that can be improved, while some are in a horrible condition. The slops are thrown in the back yard and there left to soak into the ground and evaporate. Nine times out of ten the well is in close proximity to the back door, and in throwing these slops and filth out around it year after year, the ground becomes so charged with impurities that it can't hold any more, and, of course, they go into the well. The soil will act as a filter for a time, but when it gets full, of course, the impurities will seek the most convenient outlet and that is usually the well.

There is no reason why the farm home should not be the healthiest home in the world. But after it has been used for a dumping ground for all manner of filth for a long period, it is a dangerous place, no matter how much improvement is made. Even if no more filth is put on the ground, that which is already in it will have to pass off in some manner before everything is safe. If I were going to buy a farm these surroundings would be among the first things I would look after. There are so many things that are unsafe, even that look all right.

The slop drain is one of those dangerous things. I know of a family that is careful, somewhat, about things around the door, and in order to make things look better put in a tile slop-drain with a large hopper-like place to pour the slops in. Now if this drain were made of glazed sewer pipe, cemented so that it would not leak, it would be all right; but this drain is made of common tile and the dirty water soaks out through the joints. The worst part of it is that it passes within six feet of the well, and the ground must be charged full with this poisonous matter. I told him that he was doing wrong by endangering the lives of his family, but he seemed to think it was all right. He gave the matter no attention, and perhaps has not thought of it since.

I admit that I used to be careless in this matter myself, but the more I thought the more danger I could see. You only have to get a person to thinking over these things and reasoning a little and, if he is a careful man, he will keep on thinking. We don't know we are safe, let us be ever so careful; then why not fix those things that can be so easily seen to be wrong?

I saw one back yard only today, where at the back door so much slops were thrown out that boards had to be laid across to walk over, and when you walked on them they would slush the dirty milky water out on either side. And to add to the horrors, the pigs made this a frequent place to visit, and would have their noses in any slop pail that was not emptied, and would be sure to empty it out in the mud. The well was only about 16 feet from the house and the bridge had to be built across to get to the well.

A slop drain can be made so that it is quite safe, by having a good outlet some distance from the house, or if the slop drain can run parallel and close to a tile drain for some little distance, the outlet need not come to the surface, but it will enter into the tile drain and will be carried off in that way.

The slop drain should be made of sewer pipe with lap-joints, well cemented together so as not to leak for some little distance, say 50 to 75 feet, from the house; thence it can be conveyed in ordinary tiles. It is a pretty hard matter to make a slop drain that is safe. There are some farms for which it would be safe, while there are others for which a safe one cannot be made. In such a case it may be better to dispense with the drain and use the barrel-and-cart plan, and empty it at different places around the garden and trees, though even with this the careless man will be slack. No water is thrown in our yard at any place that will color the snow in the winter time. Pails are used and every bit is carried off and thrown away from the house, back among our berry bushes. There is nothing I hate to see worse than snow all colored at the back yard by throwing dirty water on it.

Then there is the deadly privy vault. Clean it out and fill it up and get galvanized pails to use instead. Who knows but a streak of sand or some stratum of loose soil runs direct from your privy vault to your well? There may not be one in a thousand, but yours may be that one. Did you ever think of this? Yes, I thought of this, and we got the pails, and dug a new well and bricked it up with brick impervious to water, all laid in cement from top to bottom. A hole is bored in the bottom of this well about 10 feet deep and a galvanized iron pipe extends down deep in this hole, and this is where we get our water. No surface water can get in unless there is a stratum leading from a distance, down deep into it. This we can't help, but we can guard against immediate surroundings.

I read of one instance where typhoid fever carried off a family, one after another. The well water was examined and typhoid fever germs were found in it. The surroundings were all right—as far as could be seen, and the doctors were puzzled. At length one of the doctors suggested that the trouble might lie in a certain sinkhole some 20 or 30 rods from the house. A barrel of salt was dumped into this hole and in a short time the water in the well tasted salty. The problem was solved.

Reading this caused me to drain a sinkhole about the same distance from our house, although nearly all of it was on another man's land. We can't be too careful when the lives of our families are in danger. Let us do the best we can by removing all objectionable things and then if any disaster happens we can feel that we are not responsible for it.

L. N. COWDRAY.
Gratiot Co., Mich.

Veterinary Department.

CONDUCTED BY DR. W. C. FAIR.

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case fully; also name and address of the writer. The initials will only be given. When an answer is requested by mail it becomes private practice, and a fee of one dollar must accompany the letter.

Hogs Cough.—Boar has hacking cough; has had it for six weeks. I think trouble is in his throat. W. E. C., Evans Lake, Mich.—Give ground licorice, ground nux vomica and ginger in feed twice a day. Apply kerosene to throat once a day.

Distemper—Abscess.—A four-year-old mare has had distemper and there is a large lump in her throat which seems to interfere with her breathing.

P. N., Cassopolis, Mich.—Blister bunch with caustic balsam once every three days and give her ten grains quinine three times a day. The bunch will either go away or you can open it and allow pus to escape.

Cow Gives Bloody Milk.—My cow gives bloody milk from one teat. It came on suddenly. She gave good milk at night but next morning I could hardly get any milk from that quarter of the udder. Milk came in bloody chunks. Have been feeding cornstarch, mixed mill feed, corn, oats and carrots. Have fed some bean pods. A. S., Portland, Mich.—Your cow injured her udder and if you will remove the cause she will soon get well. Give more bedding

and I think she will come all right. Foment udder with hot water.

Lump Jaw.—My best cow has a large lump about the size of a hen egg on her under jaw. It seems attached to the bone and is still growing. I discovered it about a week ago. It is sore to the touch. H. L. B., Eaton Rapids, Mich.—Blister with one part red iodide of mercury to four parts lard every six days. Give two drams iodide of potash once a day.

Indigestion.—About two weeks ago I had corn, oats and beans ground together; mixture was half beans. I fed them raw as a slop feed to August pigs weighing 100 to 125 pounds. About two days later I found one pig dead and two more terribly bloated. I opened the dead one and concluded death was caused by indigestion. Found stomach full of ground feed. I am now cooking their noon feed. They bloat and are in pain. A. R. E., Lester, Mich.—Give charcoal, ground nux vomica, bicarbonate of soda and ginger in feed three times a day. Keep their bowels open.

Indigestion—I have a horse that has been treated by three veterinary surgeons and he shows no improvement. He is 12 years old. Teeth all right. Urine of a milky color. P. S., Vernon, Mich.—Give him five drams barbadoes aloes, one dram calomel, two drams ginger at one dose. That will act as a cathartic. Also give one ounce of the following mixture: Ginger, gentian, sulphate of iron, charcoal, nitrate of potash and nux vomica equal parts in feed three times a day. Change his feed. Also give him plenty of salt.

Laminitis—Thrush.—I have a twelve-year-old horse that I drove to mill. Found him very stiff and sore the following morning. He has thrush in one fore foot. F. V., Iosco, Mich.—Your horse is foaled. Stand him in hot water; poultice his fore feet until he gets over his soreness. If still sore at end of two weeks, apply a blister to coronets in front; his hind feet require no treatment. Give fifteen drops tincture of aconite every three hours and one dram nitrate of potash at same time. Feed him very little grain. Keep his bowels loose and walk him some.

Indigestion—Worms.—A few days ago one of my pigs seemed sick; would not eat. Then another came to the trough, took a swallow or two and commenced going backwards, fell down and lay there several minutes kicking and gasping as though dying. After several minutes he staggered to his feet and went into the nest and lay down without eating. The next feeding another acted the same way and the next day died. The pigs were in a tight pen until a week or ten days before we noticed anything wrong. W. W., Hudsonville, Mich.—Your pigs should have more exercise. Feed them plenty salt and powdered areca nut in their feed once a day, and sulphate of iron once a day. After feeding iron ten days give ground gentian. Change their feed.

Indigestion—Cough.—A Jersey heifer due to calve in spring declined to eat her full ration about two weeks ago and was constipated. I stated her condition to a veterinary, who gave me a dry mixture to drench her with, to be followed by a half pint dose of syrup if necessary in 36 or 48 hours. I had to give her the syrup in order to move her bowels more freely. She now has a peculiar dry cough. I have given her two doses each day for four days, in a drench, of the remedy you prescribed for a sheep in last week's issue of The Farmer, giving about four times the quantity for a dose. I can see no change in her coughing. W. H. D., Croswell, Mich.—Give one ounce bl. carbonate soda, one ounce powdered wood charcoal and one ounce ginger three times a day in feed or as a drench. Also give one ounce fluid extract wild cherry twice a day.

FARMER'S ACCOUNT BOOK.

We have compiled this account book to meet the needs of the farmer. It has 208 pages, cloth bound, and ruled properly for all the accounts a farmer should keep. We furnish it postpaid for only 60 cents, or send it free for only two subscriptions at \$1.00 each.

The following extracts from letters received explain themselves:

The Lawrence Pub. Co.:

Gentlemen:—I received the Farmer's account book in good shape and am more than pleased with it. Every farmer should have one.

True yours,
AUGUST LOEFFLER.
St. Joseph, Mich.

Live Stock.

CONDUCTED BY ROBERT GIBBONS.

Address all correspondence to MICHIGAN FARMER, Detroit, Mich.

STATE ASSOCIATION OF IMPROVED LIVE STOCK BREEDERS.

(Concluded from last week.)

The address was referred to a committee, and then Prof. Clinton D. Smith, of the Agricultural College, followed with a paper on "The Development of the Dairy Cow." It was so well received that there was a general demand for its publication, and the Professor has promised to prepare it for The Farmer, when we shall give it in full.

The next subject taken up was "Feeding Lambs for Market." Mr. J. H. Taft, of Mendon, who stands by the Hampshire, opened the discussion with the following paper:

Never in history has there been such a change in values of sheep as within the past year. As I stated here one year ago at our last annual meeting, that as breeders of the "golden hoof" we should congratulate ourselves on the bright future before us, it has come about with long and quick strides and now every breed that wears wool is selling at 100 cents on the dollar, and the better the breed the more dollars it takes to buy them.

The text assigned me, "Feeding Lambs for Market," is a subject that interests many of us, as no doubt we have had or are having experience along that line. It is a business that ticks in with general farming and stock-raising, and gives employment to the ambitious farmer during the winter months. It utilizes the coarse feed on the farm, making the best home market there is, and gives as a result a quantity of the "best fertilizer" to return to our land.

As to the kind to feed, my experience has been the better bred the better feeders they make. Any of the half-blood down lambs should make good feeders, but less than one-half blood are no good in the fattening pen, as a general thing.

I would not feed a lamb from anything but a pure-bred or recorded sire. Such lambs or better bred ones have the staying qualities, and will grow and fat as long as you feed, and never miss a meal. As an illustration, I purchased a flock of half-blood Hampshire lambs in November, that were delivered to my farm on Thanksgiving day. They had not received any grain and averaged 86 pounds. I commenced by feeding oats and bran, and in just one month they were on a self-feeder eating all the corn they wanted, and stood right up to the feeder until shipped to Buffalo the last of February. These are the kind of feeders the Hampshire cross makes. There were 100 Hampshire graded in this carload that averaged 115 pounds.

The banner crop of Hampshire grade lambs, from a recorded Hampshire ram and grade Merino ewes, ever fed at the Prairie Castle farm, were bred, raised and fattened by your humble servant. Seventy-seven head, the entire crop for that year, no sorting, were fattened and shipped to Buffalo the last of February. After a trip of seven miles by wagon they averaged 126 pounds and brought in East Buffalo 25 cents above any other grade on sale.

I simply state these facts so you can see why it pays to use a recorded or pure-bred sire. I weighed some of these lambs at different times to learn what gain they were making. Lamb No. 1 gained 71-4 pounds in eight days; No. 2 gained 45 pounds in 90 days, and similar weights were made of a dozen or more lambs.

I would not advise keeping these heavy lambs so late in the winter now, as there has been a change in the demand. I would recommend getting them ready for a Christmas market, or sooner if possible. Give them a chance and sell before winter sets in, as a nimble sixpence is better than a slow shilling. I refer you to the sales of fat lambs at Chicago stock yards within the last sixty days, when two lots that averaged 89 and 97 pounds respectively, brought \$5.90 and \$6.15 per cwt, which proves this is the time to dispose of the heavy lambs.

The feed, quarters and surroundings are very important. Change of the coarser feeds is advisable. While corn is their staple food, oats and bran are excellent to start and grow them. The

feeding of grain in racks, troughs or self-feeders has been practiced by many, and each method has its advocates. I have used the rack to feed in during the fore part, and finish off on self-feeders—say the last six weeks or two months. They are accustomed to grain by this time, and can eat all they want without harm. They will "hog down" more grain when fed in racks, as the excitement of putting in the grain and all rushing up to the rack excites them, while they only eat what they want from self-feeders.

Their quarters should be dry, light and airy. Good ventilation is very important; give them plenty of air but avoid drafts. In regard to exercise I believe they will not need any more than what they get in the shed or barn to make the greatest gain. Early in the feeding season, when first brought from the field, they should have the run of a dry yard for a time, that the change will be gradual, and confinement brought about by degrees.

Their surroundings should mean comfort and contentment to them as well as their feeder and owner, while they should have plenty of light and air, pure water, and plenty of salt should be before them at all times. No guess-work about this will do; they must have these—they are a necessity to thrive.

Mr. Taft concluded with a new rendition of Mary's little lamb, which seemed to strike an answering chord, in the breasts of many sheep men present, but lack of space compels its omission.

In the discussion which followed the question of the value of the self-feeder received the most attention. Quite a number of practical feeders gave their ideas upon this point, and the consensus of opinions expressed by them may be summarized as follows: 1st, that in changing from hand feeding to the self-feeder great care is needed, or there will be losses from over-eating. This can be largely, if not wholly, prevented by increasing the grain fed, especially corn, before the animals are turned on to the self-feeder. One feeder said he had followed the plan of throwing some pieces of ear corn in the hay racks with the hay for the sheep to nibble on for several days before they were put on the self-feeder. This is in addition to the ordinary grain ration. 2d, that the sheep and lambs should be graded into different flocks, according to size and weight, so that the larger ones would not crowd the smaller ones away from the feeder. This was also recommended where the flock was being fed by hand. 3d, that the principal object in using the self-feeder was to save labor, and that it was therefore most valuable where large numbers were being fed. 4th, that as a rule hand-feeding would give better results than the self-feeder, and the chance of losing by changing from one to the other was avoided. These ideas were brought out by questions from various parties, and the answers were given by practical feeders in each instance. Prof. Mumford gave an interesting paper on "Observations on the Live Stock of Great Britain," which he will send in for publication hereafter. "The Bacon Hog," by N. A. Clapp, of Wixom, was a most timely paper, dealing with present conditions in the hog market, and his analysis of the situation, and suggestions as to how best to meet present market demands, are sound and reasonable. We shall give that paper in full in next issue, and ask the attention of feeders and breeders to what Mr. Clapp says.

HOGS AFTER CATTLE.

To the Editor of The Michigan Farmer.

In your issue of Dec. 11th, I noticed a letter from F. E. Parker, of Ingham Co., on the mode of handling corn, and also an inquiry of what farmers think of feeding cattle and letting hogs follow them. I have been feeding cattle that way for three years, and I like it very much. I like drilled corn, but do not drill so thick that it does not eat good. In feeding cattle that way the more ears on the fodder the better, and I think that was the trouble with Mr. Parker's experiment. His cattle did not get enough grain from his fodder corn so that neither the cattle nor the hogs would show satisfactory gains. Now, I handle my corn as little as possible. I select my best corn, shock it up, and let it stand until I have finished my husking of the corn I want to crib. Then I tie my corn in bundles and fill the barn so I will have that to use in bad weather, and the rest stands in the field until I

need it, when I draw as I want it and feed in racks without cutting, as Mr. Parker did. I put in the yard one good shoot to the steer, and the hogs get enough corn so they are ready to go with the cattle in the spring, and I think about as cleanly as hogs fed in the pen by the majority of farmers. Last winter I fed thirteen head of cattle that gained on an average 65 pounds to the head a month, and the hogs gained one pound a day. I am feeding seventeen head this winter, and have seventeen hogs following. I dehorn all my cattle, and do not tie up any of them but have a shed for them to run in to keep out of the storms.

I would be glad to hear from any farmers that are feeding cattle in this way, and I am thinking of using one of the self-bindlers for my corn next season. Would like to hear from some farmers that have used them on corn that is not too ripe; will the fodder cure out good when tied in bundles? Does it not break off lots of ears?

Lenawee Co.

W. BRITTON.

RED POLLED CATTLE.

The seventh annual meeting of the Michigan Red Polled Cattle Breeders' Association was held at Lansing, December 21st, 1897. The following officers of the association were elected for 1898: President, J. F. English, Clarksville; vice-President, V. L. Parsons, Saginaw; Secretary and Treasurer, J. M. Knapp, Bellevue; Directors, J. M. Chase, Muir; R. J. Comstock, Springfield.

The feeling among breeders of Red Polls in this State is one of entire satisfaction with the outlook. The good qualities of the Red Polls are being more generally recognized every year, and breeders feel much encouraged.

THE TAMWORTH HOG.

Several readers of The Farmer have asked for a description of the Tamworth hog. So far as we know there is no accepted standard for the breed, but Prof. Thomas Shaw, who is advising the introduction of the Tamworth, has prepared the following description, which is probably his ideal of what the Tamworth should be:

The frame is long and deep, rather than broad, and is well sustained by strong limbs.

Head is long, but light, rather than heavy, possessed of but moderate dish, having the appearance of leanness.

Jowl light, rather than heavy.

Ear moderate in size, pointing forward and slightly erect.

Body long in the coupling and deep, slightly but regularly arched above and straight below.

Back moderately wide, with a gradual rounding descent until the side is reached.

Shoulder large but not rough, and about equal in thickness to the ham.

Side long, quite deep and retaining its thickness down to the belly.

Ribs well arched and deep.

Fore and hind flanks full and heart girth and flank girth good and about equal.

Ham rounded off, rather than square.

Legs medium in length, strong and standing firmly.

Skin smooth and covered plentifully with hair.

Hair not coarse, and no bristles; color a red or bright chestnut; usually darkens with age.

MIXED FEED FOR HOGS.

A Canadian writer says on this point: I have found the best results to be obtained from using such grains (a mixture of peas, oats, barley and corn, or a mixture of peas, corn and bran) ground fine and soaked for not less than thirty hours before they are fed. I think hogs should be kept so as to permit, and even to cause, them to take a good deal of exercise until after they weigh more than one hundred pounds each. In the growing of young pigs it is important that they should receive a daily allowance of skim milk for six weeks or two months after they are weaned. Skim milk is the great flesh-forming or muscle and bone forming food, and if the young pigs are stunted in these regards at that time they cannot be developed into the best class of hogs, no matter what breed they may be of. In my judgment it is highly important that the quality of Canadian hogs, in regard to proportion of lean flesh and firmness, should be maintained and improved, if the best customers for hog products are to be secured and retained.

STOCK NOTES.

H. Altman, of Cheyenne, Wyoming, has the largest herd of pure-bred Hereford cattle in the world. The herd consists of 1,000 registered white-faced cattle which are in a 35,000 acre pasture six miles east of Cheyenne.—Field and Farm.

From figures published in Great Britain it appears that farmers in the United Kingdom are raising less cattle each year. Land commands a high rental, and with the increasing competition of foreign cattle the business has become unprofitable.

We note sales of several Michigan steers lately in the Buffalo market at from \$5.25 to \$5.50 per hundred. These figures prove that Michigan can send as good cattle to market as any State in the Union when her feeders start out to do so. We would like to see hundreds of such cattle fed in the State each year.

J. W. Robinson, the Canadian dairy commissioner, says: "Export buyers demand lean meat, hence large numbers of swine should be fed and fattened during the summer months. They should be sold alive by the feeder that they may be slaughtered at packing houses, where the carcasses can be cut and cured in a uniformly satisfactory manner, suited to the preferences of different buyers."

The Drovers' Journal, in its annual review of the business done at the Chicago stock yards, gives the receipts of stock as follows for 1897: Cattle, 2,559,063; calves, 123,300; hogs, 8,371,249; sheep, 3,599,837; horses, 111,735. For comparison we give the receipts at the same yards during 1896: Cattle, 2,600,476; calves, 138,337; hogs, 7,659,472; sheep, 3,590,655; horses, 105,978. These figures show that in 1897 there was a decrease in the receipts of cattle and calves, and an increase in hogs, sheep and horses.

In a recent report, made by John Cowrie, after the careful trial of several hog cholera remedies during the past summer, being associated with the Iowa state veterinarian, he says: "So far as the disease which is now desirous of the swine herds of Iowa has baffled all efforts to cure or even control, and each and every one of the so-called cholera cures now upon the market have proved, when put to a fair and honest test in a herd really affected by the disease, to be without merit, and absolutely worthless as a cure for this dread complaint." Which is no more than we expected.

A case was recently tried in Birmingham, England, to decide whether a ham which was offered for sale as an English ham was really what it was represented to be. A point in the case was that the ham in question bore three hairs growing from a single root, and this was put forward as evidence that the ham must be American. It was shown by the defense, however, that three hairs growing from one root is a characteristic of the Berkshire breed of pigs, although not entirely confined to these. As the "three-hairs" proof was the only evidence offered to show that the ham was American, this was considered too weak a support, and the case was dismissed.

When writing advertisers please mention Michigan Farmer.

DON'T STARVE

Because food gives you distress. Take Hood's Sarsaparilla and be cured. It will tone and strengthen your stomach and create an appetite. Then you may eat without fear of distress.

Hood's Sarsaparilla

Is the Best—in fact the One True Blood Purifier.

Hood's Pills act easily, effectively. 25c.

REGISTERED RAMS AND EWES FOR SALE

At Rambouillet, U. S. A. THOS. WYCKOFF, Importer and breeder, Orchard Lake, Mich.

HERE

Did you notice what we have been saying? "Twenty cows and a Safety Hand Separator will make more and better butter than twenty-five cows and no separator." We guarantee just what we say and send the machine on trial; so why don't you buy one?

P. M. SHARPLES,

West Chester, Pa.,
Elgin, Ill.,
Dubuque, Iowa,
Omaha, Neb.

The Horse.

CONDUCTED BY ROBERT GIBBON.
Address all correspondence to MICHIGAN FARMER,
Detroit, Mich.

FEEDING WORK HORSES AND COLTS.

A practical English horseman gives the following description of his method of feeding his horses and colts: Some years ago we adopted a method that was in a measure new to us, but it has proved highly satisfactory and profitable, and nothing would induce us to return to the old system. We employ, say, forty horses about our mills here in the summer season. In the rear of our stable we have a feed room, where our cut straw for bedding and our cut hay, oats and ground feed are kept, and here we have two mixing-boxes, where the rations for the horses are mixed before feeding. The cut hay is put into these boxes and is thoroughly soaked with water twelve hours before it is fed. The ground feed is mixed dry, and before feeding is thoroughly mixed with the wet hay. The ration we started out with was 4 pounds cut hay, $\frac{1}{2}$ pound bran and 5 pounds ground oats and barley to each horse night and morning, and 4 pounds dry oats only at noon.

Our horses are generally of large size, and are doing excessively hard work, and we found this ration too small for them and we gradually increased it until we have settled down to this: 5 pounds hay, 5 pounds ground grain and $\frac{1}{2}$ pound of bran to each horse morning and night, and 8 pounds dry oats ample for the largest class of horses doing the most excessive work.

Our saving is at least 10 pounds hay per day for each horse and 6 pounds grain for each. Not only is this the case, but our horses are healthier and better in every way. Under the old system, it was a common thing for us to lose from one to five horses every summer, and sometimes even more, with colic and inflammation; but in the past seven summers, under our new system, we have not lost as many horses altogether as we formerly lost in one season, and we have not had a sick horse. A much less ration than we feed would be ample for farm horses or for any horses doing ordinary work. We add, also, that with this system of feeding hay, together with the free use of wheat bran and a little ground oats only at noon (no hay), and this we find mixed with it, we find we can develop colts in a manner that we have never seen them developed before.

CLIPPING HORSES.

Regarding the practice of clipping horses during the winter season, which has been the subject of dispute among horsemen for a long time, the following from Alexander Mair, in the New York Tribune, takes the sensible view of the subject:

There are several reasons why clipping is advantageous to driving horses in cold weather. In the first place a horse will travel faster and with less exertion if clipped, and on reaching the stable will be more easily dried out. By the use of clothing the horse will be left just as comfortable, if not more so, than the unclipped horse with a heavy coat of hair, and will stand less chance of contracting cold. An unclipped horse perspires very freely, and it is almost impossible to rub the coat so as to leave the animal dry and comfortable—in fact, horses are often rendered stiff and useless for further service by being left in a half-dry condition. The sweat gets clogged about the roots of the hair, and so stops up the pores of the skin; the animal, instead of feeling warm, begins to get cold, and the owner finds a foundered horse on his hands. Horses that are intended for express and delivery work may have their bodies clipped, providing a warm covering is used to protect them while standing. Such horses, however, should never have their legs clipped, as the hair will keep the extremities warm while the horse is standing, and, owing to its non-conducting properties, will prevent the horse having cracked heels (scratches).

Fashionable people always have their riding and driving horses clipped in cold weather, and it is also true that this class of horses is more free from "founder" than any other class. This can be accounted for only by the fact that they are better cared for than others.

Some people claim that it is against the laws of nature to remove the horse's coat at all, but these are generally people of limited experience. If clipping will add to the comfort and

welfare of the horse, it would be small return for his services to neglect anything that can be done for the greatest servant God has given man.

HORSES FOR EXPORT TO EUROPE.

As there is always a desire on the part of farmers to learn all they can as to the classes of horses wanted abroad, they will be interested in the following remarks from a dealer who has been in the business, and knows whereof he writes. He writes under the nom de plume of Yarrum, in the Horse Review:

The standard by which good horses are judged is practically the same in both countries. A horse that can win in the show ring in America can win in Europe, and the horse that brings the most money in our home markets will bring the top price abroad. Europe is so far away that it does not pay a shipper to pay freight on plugs, hence, while "plain, blemished, and unbroken stock sells at a discount" in our home market, the exporter never buys that class of stuff at all. That's all the difference between the two markets. In Europe, horses are used to pull carts, cabs, omnibuses, coaches, trucks, ploughs, and sulky, and to carry men on their backs with ease and comfort, same as they are in this country. They want good horses of all breeds, for no one breed can answer all purposes.

As to what constitutes a good horse, we can learn that without going to Europe. Buyers who have studied the business in the large markets of the world are brought into immediate contact with breeders the country over, and as the breeder can get more money for a good horse than he can for a poor one, he would be a dunce if he did not soon learn just what the market demanded. The man who acknowledges that all horses look alike to him is not cut out for a successful breeder, and the breeder who does not know a good horse from a poor one, has been, or should have been, forced out of the business long ago.

More than half of the horses exported from this country are sold in England, and the large majority of the foreign buyers located in this country are Englishmen. London is a nice little town of over 6,000,000 inhabitants, and, as there are practically no street cars in the city, the people are compelled to travel around town in cabs and omnibuses, and the number of horses required to handle the passenger traffic is beyond calculation. Probably 75 per cent. of the horses that go abroad are horses suitable for cabs and omnibuses. These horses are the same sort that would be used for a like purpose in this country, with the exception that they are, as a whole, a better lot of individuals, for reasons I have already given.

The London cab horse does not conform to any particular type or belong to any particular breed. He is a road horse whose value depends upon color, size, substance, soundness, and gait, just such a horse as we have been breeding all over the United States and selling to exporters ever since values dropped below the cost of production abroad.

I know this from observation in the Chicago yards, and in the markets of Liverpool and London. I have had the pleasure of crossing the Atlantic on a steamer that carried 400 horses to London. These horses were mostly purchased at Chicago and Buffalo, and the lot was composed of several very handsome ponies between thirteen and fourteen hands in height; a number of trotting-bred coach horses, with tails off and manes pulled; some extra good draft horses; about a dozen trotters and pacers that could step from 2:30 to 2:25, and a large number of smooth chunks, that would weigh from 1,200 to 1,400 pounds. These horses brought good prices in the London market, and I guess the lot, as a whole, is a fair sample of what the average steamer load of horses consists of.

This gives you an idea of what the European market demands, also the idea of how much of the stuff printed in the papers is tommy-rot, pure and simple. The horse that wins the blue ribbon at the county fair is the horse the foreign buyer wants, and that is the kind our breeders are trying to raise. Europe wants good horses of all breeds, and the breeder who cannot recognize a good horse at sight had best get out of the game.

HORSE GOSSIP.

The Tennessee Derby for 1898 closed with 66 entries.

The St. Louis Derby of 1898 has 155 entries eligible to start.

In the past three months the Nation-

al Trotting Association has recovered over \$3,500 unlawful winnings from the owners of ringers. A portion of it has been redistributed, the balance being held subject to the action of the Board of Review.

Isaac J. Ellsworth, who drove the mare Susie S. in the Michigan circuit last season, is reported by a Jackson paper to be under arrest at Toledo, O., and also wanted at St. Johns, this State, for mistaking the ownership of a pair of horses, which seems to be a chronic affliction of Mr. Ellsworth.

Lady Reel, by Fellowcraft, dam Mannie Gray by Enquirer, and sire of Hamburg, was sold last week for \$15,000. While she is choice bred, and seems likely to prove a great brood mare, the price is a high one for a mare too old to be on the turf. She is in foal to Hanover, the sire of Hamburg.

From the number of cases of "ringing" which came up before the Board of Review at its last session, it would appear as if the business had become a recognized turf industry. The fact is, horses should not be allowed to start in a race till they are fully identified. If the owner cannot furnish proof of the identity of his horse it is pretty good proof that such horse has no right to start in that particular class.

James R. Keene, speculator and sporting man, will have a stable of horses in England the coming season. He has raced horses in that country before, having owned Foxhall when he made such a sensation in England by beating all comers, and then winning the grand prize of Paris against the best French three-year-olds. Foxhall was a grand race horse, but a complete failure as a sire, having been tried both in this country and England.

George H. Ketcham, the Toledo breeder who drives his own horses, is emphatically in favor of doing away with betting on heats. On this subject he wrote as follows in the Christmas issue of The Horseman: "After a competent man, who has had a fair opportunity to judge of the ability of the different horses, is in the judges' stand, reduce your distance to half what it is now to prevent the laying up of heats, and then not allow a pool to be sold on a heat, making every pool, either mutual, auction or book, dependent upon the result of the race and the distribution of the purse. I believe the association that allows a book to be made on heats not only receives money for what may be a fraud committed on its grounds, but rather invites that fraud by opening the gates to all kinds of trickery."

The directors of the Kentucky Horse Breeders' Association, at a recent meeting, adopted resolutions declaring that "the use of hopples on horses in races is dangerous to the life and limb of every driver and horse participating therein; that it mars the enjoyment of the public in witnessing such races, and that it works great injustice to those who race horses without hopples, forcing them to place their lives and property in jeopardy without any compensating advantage whatever." They therefore request the National and American trotting associations to pass a rule prohibiting the use of hopples on horses participating in races over the tracks of their

Horse Owners Should Use GOMBAULT'S

Caustic Balsam

The GREAT FRENCH VETERINARY REMEDY



A Safe, Speedy and POSITIVE CURE.

Prepared exclusively by J. H. Gombault ex-Veterinary Surgeon to the French Government Stud.

SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce any sore or blister ever used. Takes the place of all liniments for mild or severe action. Removes all blisters from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Bone Tissue, Etc. It is invaluable.

WE GUARANTEE CAUSTIC BALM will produce more actual results than a whole bottle of any liniment or spasmodic cure mixture ever made.

Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by Druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address THE LAWRENCE-WILLIAMS CO., Cleveland, O.

spective members, attaching a specific penalty of such severity for its violation as will insure full obedience from each track so governed. We hope this action of the Kentucky Association will be followed by others, until this most unsightly and dangerous adjunct of trotting and pacing races is completely eliminated.

McLAUGHLIN BROS., COLUMBUS, OHIO.

We have imported more stallions from France since 1886 than all others combined. Write or call on us if you want the best of either

French Coachers or Percherons.

BREEDERS' DIRECTORY.

HOGS.

5 POLAND-CHINA BOARS, spring farrow, at half price; 40 Pekin Ducks. Get our 1898 catalogue. E. A. CROMAN, Box 99, Grass Lake, Mich.

R. M. CROSS, Ovid, Mich., breeder of Victoria swine. Stock for sale. Breeding stock all recorded. Reasonable prices. Correspondence solicited.

P. C. WILSES sows bred to Victor "C" for April '98 farrow. Try one from the first premium herd of State Fair '97. L. F. CONRAD, Wacouta, Mich.

Duroc Jersey Hogs and Langshan Cockereels. Boars cheap. J. S. STONEBREAKER, El Paso, Ill.

DUROC JERSEY SWINE—Spring and fall pigs miles north of Howell, Livingston, Co., Mich.

SPECIAL SALE of 25 head of heavy-boned, choice Poland-Chinas. Spring and fall farrow. Stock always on hand. WM. L. PENNOCK, Hastings, Mich.

LARGE ENGLISH BARKSHIRE from extra strains, for sale by DARWIN FOSTER, Grand Ledge, Mich. Correspondence solicited.

LARGE ENGLISH BARKSHIRE SWINE of the best strains for sale. Write for breeding and prices. C. E. PAULTHORP & CO., Mt. Morris, Mich.

LARGE ENGLISH BARKSHIRE SWINE, highly bred, from leading families. Write for prices. V. E. HACKNEY, Mt. Morris, Mich.

MERCHANT KELLY, Woodstock, Mich., writes for prices. LARGE ENGLISH BARKSHIRES.

POLAND-CHINAS Nice large spring sows, and fall boars all sold. F. M. PIGGOTT, Fowler, Mich.

POLAND-CHINAS—Choice male pigs; also M. B. Turkeys and B. P. Rock cockerels. O. B. ROBBINS, Edwardsburg, Mich.

WEST MICHIGAN HERD VICTORIA SWINE W Choice stock of all ages for sale. Write for prices. M. T. STORY, Lowell, Mich.

Special Prices for Poland-Chinas for the next 30 Days. Address M. M. GRIFFIN, Grand Ledge, Mich.

DUROC JERSEY SWINE. Spring and fall pigs for sale, both sexes. H. D. HALL, Martin, Mich.

DUROC JERSEYS, ALL AGES. Write for what you want. C. C. BRAWLEY, New Madison, O.

VILLAGE VIEW HERD OF P. C. SWINE. Spring boars and fall gilts at big discount. Pekin Ducks. J. C. TAYLOR, Grass Lake, Mich.

N. A. CLAPP WIXOM, MICH. BREEDER OF Large English Berkshire Swine. Write for prices.

GRAND RIVER HERD OF O. I. C. JOHN BERNER, Prop., Grand Ledge, Mich. My stock comes direct from L. B. Silver Co. Write for prices.

POLAND-CHINAS One grand yearling boar; choice young boars and sows, something to head your herd. Write or come and see them. L. W. BARNES, Byron, Shiawassee Co., Mich.

DUROC-JERSEY PIGS; B. P. R. Cockerels; Pekin Ducks; Eggs for hatching. J. H. BANGHART, Lansing, Mich.

FOR SALE. WILLARD PERRY, Hastings, Mich.

Hastings Stock and Poultry Farm, breeder and shipper of Poland-China swine, B. P. H. chicks and M. B. turkeys. Write for barn-gains.

Special Sale of Chester Whites at CASE VALLEY FARM. Lot of fall and spring pigs, dandies, etc., their value. Write to-day and secure a bargain. W. W. BALCH, Deford, Mich.

25 HEAD OF YOUNG BOARS ready for service to 12 months old. Fine, strong, growthy, of Wilkes, Free Trade and U. S. strains. Prices low for quality. J. R. HAINES, Minerva, Stark Co., Ohio.

BIG CUT. Prices on P. C. BOARS. Write now. High quality. Rich breeding. Profitable results. A. H. FOSTER, Allegan, Mich.

NOW READY Poland-China Herd Headers, quality and finish combined. Sired by Roy Wilkes 41517. Grand breeder, seven firsts and one second at Washtenaw County Fair. Also sows. G. W. INMAN, Ypsilanti, Mich.

PRINCE U. S. heads my herd of Poland-Chinas; he by Corwin King 17071; dam by Quality 12457. Sows bred, for sale, fall pigs of Klever's Model, Tecumseh and Black U. S. strains. Also Light Brahma chicks. E. D. BISHOP, Woodbury, Mich.

KLEVER'S TECUMSEH heads my herd of Poland-Chinas; weight 200 lbs. at six months, extra length and great depth. Sired by the 85,100 Klever's Model, dam by the great Chief Tecumseh 2nd. Write your wants. WM. H. OOK, Waterford, Mich.

SPECIAL SALE of Poland-China Boars, to close out. Choice fall pigs. Sows bred to Ideal Chief.

1st prize boar under 1 yr. at Mich. State Fair. Also our herd boar, U. S. Wilkes. A. A. WOOD, Saline, Mich.

W. O. WILSON, Okemos, Mich., proprietor of the Michigan Central herd of IMPROVED CHESTER WHITES. Choice pigs of March and April farrow, either sex and pairs not skin. Write me just what you want. Light Brahma cockerels at \$1 each.

Sheep and Wool.

CONDUCTED BY ROBERT GIBBONS.

Address all correspondence to MICHIGAN FARMER,
Detroit, Mich.

THE TARIFF ON WOOL.

PART TAKEN BY MICHIGAN MEN IN THE STRUGGLE.

At the annual meeting of the State Merino Sheep Breeders' Association, the editor of this department was called upon to read a short history of the part taken by Michigan in the struggle to have the wool schedule adjusted in a fair and equitable manner, and we print the statement then made for the information of the wool-growers of this and other States.

After the Dingley bill had passed the House and gone to the Senate, Hon. John T. Rich, who had been at Washington, returned and brought back word that the duties placed by the Dingley bill on wool, while nominally as high as could be asked for, would be greatly cut down by the retention of the skirting clause, allowing skirted fleeces to come in at the same rate of duty as whole fleeces, and suggesting that the wool-growers of the State should take some action on the matter.

As a means of calling attention of those interested to the subject, several editorial articles were published in The Farmer, explaining the matter, and showing by diagrams what the present system of skirting fleeces really meant to wool-growers. It was pointed out as plainly as possible that while the nominal rate of 11 cents per pound was given on first-class wools, the effect of the skirting clause would be to cut down the duty rate to 7, or at most, 8 cents per pound. The result has verified the correctness of these statements. The duty of 11 cents has raised the price of such wools 8 cents, and there the advance has stopped. It was also shown that in fixing the duties upon woolen goods the compensatory duties upon them were fixed at three times the duty upon wool—or 33 cents per pound, instead of 24 cents, the duty which they would be called upon to pay. The editor of The Farmer also wrote personal letters to both senators from this State embodying these facts, and asking them to use their influence in having this skirting clause eliminated from the wool schedule. Replies were received from both expressing their willingness to do what they could to assist the wool-growers.

Later, in a talk with Mr. Rich, after the Senate finance committee had decided to cut down the duty on wool to 8 cents per pound, with an additional duty of 1 cent on skirted fleeces, it was thought best to call a conference of a number of the leading wool-growers of the State, and advise with them as to what further action should be taken. Letters were written to a number requesting them to come to Detroit on a certain date, and explaining what was in contemplation. The letters were sent to wool-growers and sheep-breeders representing all classes of sheep. The majority of those written to replied, expressing their sympathy with the movement, but that they would be unable, for various reasons, to attend the conference.

On the date set the following parties met at the Griswold House, this city: A. A. Wood, president Michigan Merino Sheep Breeders' Association; Peter Voorhees, ex-president of the association; C. E. Lockwood, also a member of that association; Hon. John T. Rich, ex-president of the association; A. H. Zenner, of the Zenner-Raymond Company, of this city, and Robert Gibbons, associate editor of the Michigan Farmer. Letters from a number not in attendance were read, and then suggestions called for. It was finally decided that at least two representatives of the Michigan wool-growers should be sent to Washington to look after the interests of the wool-growers, and that President Wood and ex-President Rich were the proper persons. Mr. Rich said he should be at Washington on other business, but that it would afford him pleasure to work in conjunction with any representative of the wool-growers and do what he could in their behalf and without cost to them. He spoke of the difficulty of explaining the points at issue to anyone not acquainted with wool, and said that the manufacturers were always represented by keen, active men, well posted in the business, and who would always exercise great influence upon legislation in which they were interested.

R. Gibbons said it was quite evident that few congressmen, either representatives or senators, understood the effect skirting fleeces had upon their value. For that reason he thought if a skirted fleece, prepared as they were in Australia, could be placed before them, it would greatly assist them in arriving at an understanding of this matter. He had talked with Mr. Rich about the matter, and also with Mr. Wood, but the difficulty of getting such a fleece before Congress in proper shape had led to the abandonment of the idea.

Mr. Zenner said he was sure he could have a case prepared which would carry such a fleece in perfect condition, and offered to have one prepared at his own expense. He also offered to forward any fleece furnished him to some one of the Michigan delegation and pay all charges connected with forwarding it to Washington.

Mr. Zenner's offer was accepted, and to Mr. Voorhees was delegated the duty of selecting two fleeces of Merino wool, as nearly as possible of the same quality as the best Australian, and skirting them as per a diagram printed in The Farmer. How well he performed this duty those who have seen these fleeces know. Mr. Zenner had a case built and sent to Mr. Voorhees large enough to contain a whole fleece on each side. Mr. Voorhees skirted the fleeces and marked the skirted lines with thin cardboard cut as wide as the length of the wool, and then returned the case and fleeces to Mr. Zenner, who had it expressed to Senator J. C. Burrows, at Washington, where it arrived safely and in excellent shape. Mr. Zenner also recommended that the farmers' clubs throughout the State should be appealed to by circular to aid in the movement by passing suitable resolutions and forwarding them to senators and representatives from this State. This was agreed to, and Mr. Zenner, through the assistance of Secretary Wells, of the State Association, secured a deluge of resolutions and personal letters from the clubs and farmers throughout the State.

After the fleeces had been forwarded, Messrs. Rich and Wood started for Washington and for two weeks gave earnest attention to the work of having the wool schedule changed so as to better carry out the promises of the party in power to the wool-growers. The skirted fleeces were placed on exhibition, and Messrs. George H. Wallace, of New Mexico, once U. S. consul at Sydney, Australia, and President William Lawrence, of the National Wool-Growers' Association, opened a school for the instruction of representatives in what constituted a skirted fleece of wool. It was through the effective work of the gentlemen mentioned—Messrs. Rich, Wood, Lawrence and Wallace, and the object lesson of these skirted fleeces, that the Senate rate of 8 cents was set aside and the original rate of 11 cents restored in the Dingley bill.

There is no doubt that if the wool-growers and sheep-breeders of other states had been as active as those of Michigan, that infamous skirting clause and several other inequalities and injustices in the Dingley bill, would have been modified.

As to the effect the skirted fleeces of Michigan wool had on the subject of the duty rate on foreign wool, we append a few extracts from letters received by Mr. Zenner from several of the gentlemen who took an active interest in the struggle:

From Hon. John T. Rich:

It is hard to estimate the influence exerted by any particular argument or exhibit, as the wool schedule, like some other schedules, was a series of compromises among the members of the Committee of Ways and Means in the House and the Finance committee in the Senate; but it is safe to say that the exhibition of the fleeces did exert considerable influence favorable to the interests of the wool-growers, and aided many senators and members of Congress in understanding this complicated question.

Hon. George H. Wallace:

I am very anxious to secure for the wool-growers full and adequate protection, and I trust such will be the result of our efforts here. The fleeces sent here have been of admirable service.

Hon. James McMillan:

Replying to your letter in regard to the skirted fleeces sent for use in the argument relative to the wool schedule in the present tariff law, I would say that the fleeces sent were fine specimens and attracted a great deal of attention. They were specially valuable as illustrating the method of skirting, about which comparatively little was known.

Hon. J. C. Burrows:

The beautiful skirted fleeces which you kindly supplied for use in the adjustment of the wool schedule of the tariff bill were undoubtedly of great service in giving a clear idea of the process of skirting. The samples were certainly beautiful and were looked at by a large number of senators and representatives interested in the subject.

FLOCKS AND FLEECES.

American mutton sheep are said to be meeting with good sale in Glasgow, Scotland, and at satisfactory prices.

The demand for wool is good and is expected to improve with the new year. We look for a very active market in February and March.

It is said that the breeding of sheep is falling off in Argentine, as the Italian immigrants do not take to this industry, preferring to raise fruit or grain. They are filling up the sheep breeding sections of that country and gradually driving the flocks out of existence.

A western paper printed the statement that there were 5,000,000 sheep on feed in Nebraska. The Drovers' Journal thinks there are about 4,000,000 sheep on feed in the United States. Undoubtedly the Journal's estimate is about correct. Nebraska will never feed 5,000,000 sheep in any one year. That is more than double the number of sheep there are in that state.

Weight and quality cuts considerable figure with the sale of western fed sheep, while fat fed sheep running well to wethers and not too heavy, find an outlet at \$4.40 to \$4.50.

Strictly modoc sheep that have been but a short time on feed and only partly fat sell slowly, at \$4.25@4.30. All kinds of heavy western sheep are very slow sale at present, owing to the entire absence of any export demand.—Buffalo Commercial Bulletin.

The Mark Lane Express says: The agricultural returns collected last June showed that the flocks of the British Isles are about three millions short in numbers of what they ought to be. This is not at all because sheep breeding has got to be less remunerative, this branch of agriculture being still amongst the most promising, but solely owing to the drouthy summers, which have come frequently of late to give failure to the crops on which sheep mostly depend in winter. Pure breeding has, in fact, greatly extended itself, and probably the high quality and rare excellence of British flocks have never been surpassed. If we investigate the ram sales of the different breeds, we shall find also that very satisfactory realizations have been reported this year, which is at least one indication of a healthy state of things.

Prevent attacks of rheumatism by taking Hood's Sarsaparilla. It purifies the blood.

Asthma and Hay-Fever Cure. Free.

We are glad to inform our readers that a sure specific cure for Asthma and Hay-fever is found in the Kola Plant, a new botanical discovery from the Congo River, West Africa. Many sufferers report most marvelous cures from its use. Among others, Mr. Alfred C. Lewis, Editor of the Farmer's Magazine, and Rev. J. L. Combs, of Martinsburg, West Va., were completely cured by the Kola Plant after thirty years' suffering. Mr. Lewis could not lie down at night in Hay-fever season for fear of choking, and Mr. Combs was a life-long sufferer from Asthma. Hon. L. G. Clute, of Greeley, Iowa, writes that for eighteen years he slept propped up in a chair, being much worse in Hay-fever season, and the Kola Plant cured him at once. It is truly a most wonderful remedy. If you are a sufferer we advise you to send your address to the Kola Importing Co., 1184 Broadway, New York, who to prove its power will send a Large Case by mail free to every reader of the MICHIGAN FARMER who need it. All they ask in return is that when cured yourself you will tell your neighbors about it. It costs you nothing and you should surely try it.

BREEDERS' DIRECTORY.

CATTLE.

J. F. & H. W. ENGLISH, Clarksville, Mich., breeders of registered RED POLLED CATTLE. Oneay and Sultan head the herd.

J. M. CHASE, Muir, Mich., breeder of Red Polled Cattle and Poland-China swine. Choice young stock for sale. Prices right.

SHORTHORNS. If you want a good Shorthorn bull or heifer, a Berkshire pig of either sex, address N. A. CLAPP, Wixom, Mich.

W. M. FISBECK & SON, Howell, Mich., breeders of registered SHORTHORN CATTLE from good milking families. Rosebud's Acklaim Sharon 4th 120893 at head of herd. Stock for sale. No bulls except calves.

THE largest, neatest perfect, and most typical pure bred Holstein bull calf, 4 weeks old, in Michigan, due to day of his age. Dame Joanna's Perfection, that gave in 355 days 14,987 lbs. of 4 per cent milk. Price reasonable. B. F. THOMPSON, Detroit.

SHORTHORN BULLS. Two yearlings, five calves, August and later; sire, Per Diem 10th 120479, acknowledged to be the best bull in Michigan, due to day of good milking families. Will sell a few choice heifer calves. Our Shropshire sire, County Magistrate, 3 years old, \$40; one shearing ram \$30; one extra choice ram lamb \$25. THE A. P. COOK Co. Limited, Brooklyn, Jackson Co., Mich.

SHEEP.

PURE Bred Hampshire Rams from imp. stock at a bargain for the next 60 days. Inspection invited. J. H. TAFT, Mendon, St. Joe Co., Mich.

LINCOLN Sheep and Chester White Swine. Either sex and all ages for sale. Write before purchasing elsewhere. A. H. WARREN, Ovid, Mich.

SHROPSHIRE HALL STOCK FARM. Special prices on 75 choice registered ewes, all bred to imported rams and 30 choice two lambs, to make room for bull in season's second importation, to arrive in January. Also a few choice Polands and Hampshire sows and boars. State agent for the Black Diamond Sheep Dip, the best dip on the market to-day. I have tried them all. L. S. DUNHAM, Concord, Mich.

**THE GREAT REMEDY
FOR PAIN
CURES PROMPTLY.**

**THE GRANITE STATE
MAPLE SAP EVAPORATOR**

.....has for more than 21 years given entire satisfaction to all users. It is simple in operation, and with our automatic regulator is perfectly safe to leave. Each section is constructed from one sheet of tinned steel, requiring no solder to prevent leakage. The arch is constructed of cast iron and galvanized steel, and made by the manufacturers of the.....

Granite State Feed Cookers

A sample of the "Pearl" (tinned or galvanized after being made) steel Sap Spout will be sent FREE to any sugar maker who mentions this paper and sends a 2c stamp to pay postage. Thousands of these spouts are sold every year.

ACTUAL SIZE



FREE

If your hardware dealer does not keep them, we will send 1,000 spouts, with hooks, for \$12.50; 100 for \$1.50. Send for catalogue of sugar-makers' supplies, free on application.

WE SELL DIRECT TO FARMERS.

FARMERS AT WISE, DEAL WITH US AND SAVE 40 PER CENT. ON YOUR FERTILIZERS. You Save Salesman's Expenses and Agent's Profit.

Analysis.	Per cent.	Per cent.	Per cent.	Actual Potash.
Pure Raw Bone Meal.	22 to 25	4 to 5	4 to 5	\$22.00 per ton
Four Fold Fertilizer.	9 to 10	2 to 3	2 to 3	16.00 "
Smoky City.	8 to 10	1 1/2 to 2 1/2	1 1/2 to 2 1/2	15.00 "
Big Bonanza.	9 to 10	2 1/2 to 3 1/2	4 to 5	20.00 "
Potato Special.	9 to 10	3 1/2 to 4 1/2	6 to 7	23.00 "
Tobacco Special.	11 to 12	3 to 4	4 to 5	21.00 "
Bone and Meat.	13 to 15	4 to 5	4 to 5	18.00 "

For samples and pamphlet, write WALKER STRATMAN & CO., Herr's Island, Pittsburgh, Pa.

Farmers' Clubs.

CONDUCTED BY A. C. BIRD.

All correspondence for this Department should be addressed to A. C. Bird, Highland, Mich.

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—E. J. Cook, Owosso.
Vice-President—Mrs. E. L. Lockwood, Peters-

burg.
Secretary-Treasurer—C. M. Pierce, Elva.
Directors—W. H. Howlett, Dansville; C. J. Phelps Damon; F. M. Whelan, North New-

burg; A. L. Landon, Springport; H. Gaunt, Highland; A. P. Greene, Eaton Rapids.

All communications relating to the organiza-

tion of new clubs should be addressed to C. M. Pierce, Elva, Mich.

THE ASSOCIATION LEADERS OF 1898.

We have planned a pleasant surprise for the 20,000 club workers of Michigan in presenting to them in this issue the features of the honored president of the State Association, reproduced from his latest photograph. With it, in order that the readers of The Michigan Farmer may know something of what manner of men the leaders of this movement are for the coming year, we append the following short biographical sketches.

PRESIDENT E. J. COOK.

E. J. Cook is a Michigan man, through and through. Born on the farm on which he now lives, near Owosso, in 1839, his early life and school training was not unlike that of other farmers' boys and girls of those hardy pioneer days. But then and there was laid the foundation of that noble character which has developed him into a natural, though peculiarly unostentatious and quiet, leader of men. To him fortunately came that valuable discipline of teaching district school in the days when to be a really successful teacher required a greater breadth of mind than the world demands to-day. His college course immediately followed, since which, aside from being superintendent of schools in Shiawassee Co. for two years, he has followed his chosen profession of farming. Mr. Cook is a general farmer and as such has worked out a success which makes his home a delight to all his friends. From a practical point of view his present position as one of the leaders among the farmers of Michigan has been fairly earned. He has given his two sons a thorough education, both having completed the full course at the Agricultural College. His farmers' club work has been simply invaluable to the Association. He was the organizer of the Maple River Farmers' Club, and has been its president for two terms. From the inception of the idea of organizing a State Association he has been one of its staunchest supporters and most trustful advisers. The position which he now holds as its president, has been fairly and honestly earned and his election to that office was a most happy consummation of the best year's work the Association has ever done.

VICE-PRESIDENT MRS. E. L. LOCKWOOD.

The first lady officer of the Association, Jennie Hall Lockwood, of Petersburg, Monroe Co., was born in Bristol, Addison Co., Vt., Sept. 23d, 1838. She removed with her parents to Dundee, Michigan, in 1849, since which time she has been a resident of Monroe Co. Like the most of the truly successful men and women of our time she obtained her early education in the district schools. She completed her school work at the State Normal at Ypsilanti, and was for several years a teacher of marked success. In 1859 she was married to E. L. Lockwood, then one of the young business men of Petersburg, but for many years since one of the best known and most extensive and most successful farmers of southern Michigan. In 1862 they bought a tract of land and laid the foundation of the beautiful home which is now theirs.

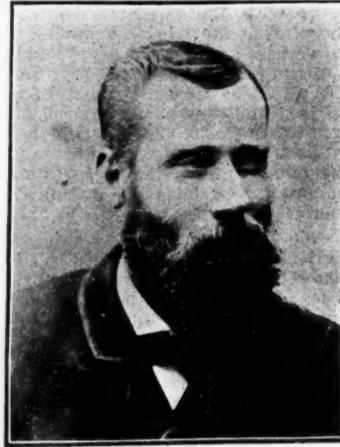
Mrs. Lockwood began public temperance work in the fall of 1873, during the "crusade," and has been a most active worker in that cause ever since. Was president of the Monroe Co. W. C. T. U. for six years and is at present president of the second district W. C. T. U., a position she has held for three years.

In farmers' club work Mrs. Lockwood is an enthusiast, and withal a practical enthusiast. She was a member of the first farmers' club in Monroe Co., organized in 1873, and has always been thoroughly identified with the club work of her county. Since the establishment of the State Association she has been one of the most indefatigable of its supporters, and during the last two annual conventions has contributed largely to the

inspiration of the meetings. We confidently predict that her best work for the farmers' clubs of Michigan is yet to come.

DIRECTOR H. GAUNT.

By the unanimous vote of the Association the office of director for the full term of six years was tendered to Harrison Gaunt of the Highland and Hartland Farmers' Club. Mr. Gaunt is one of the best examples among all our acquaintances of that magnificent type of Americans known as "self-made men." Born forty-nine years ago in the city of Ann Arbor, left fatherless at two years of age, compelled to take care of himself from the age of nine, digging out his education in the district schools during the winter months and doing chores for his board at the same time, beginning work upon the farm at \$6 per month and slowly but surely winning the battle against adverse circumstances, his success is an inspiration to every ambitious child of poverty who is so fortunate as to know the story of his life.



PRESIDENT E. J. COOK.

It was Mr. Gaunt's good fortune to spend four years of his early life with one of the best farmers Michigan has ever had, the late Ed. Boyden, of Boyden's Plains, Washtenaw Co. It was while he was here that the Boyden farm took the prize offered by the State Agricultural Society to the best farm in the State. From here he went to the Harrison farm, near by, another of the magnificent farms of that vicinity, and spent five years working by the month. At twenty-four years of age he had accumulated a sufficient amount to make a small payment on a place of his own and he bought the farm of fifty-five acres at Highland which he still owns, going in debt thereon \$2,000. He brought to this home his bride, who was Miss Ellen R. Brown, a daughter of Wm. P. Brown, one of the earliest, most successful and most widely known of the pioneers of Washtenaw Co.

With nothing but this little farm to make money from, the heavy mortgage was soon wiped away and new and commodious buildings replaced the old, until to-day their model farm home is the pride of the community in which they live. Mr. Gaunt's specialty is fruit culture, in which he is remarkably successful. Few orchards in the State can be compared with his in attractiveness and productiveness. He is an ardent believer in the principle that a small farm well filled is more profitable than a large farm poorly cultivated. He is a first class business man in every sense of the word, yet has found time for a vast amount of good reading and is one of the best informed men in his township.

Mr. Gaunt was for many years an active and enthusiastic member of the Grange, retaining his allegiance until the local Grange disbanded. Upon the organization of the farmers' club he at once became one of its best workers, and, to use his own words, is "more enthusiastic than ever in its support and believes it to be the grandest and best organization of farmers the world has ever seen." The State Association never had a better friend than he, and his accession to the Board of Directors will be a source of permanent strength to the organization.

DIRECTOR A. P. GREEN.

The second director recently elected to the full term of six years is one of the most successful horticulturists in the State. Born thirty-five years ago on the farm on which he now lives, near Eaton Rapids, his best thought and energy has been given to his chosen work along horticultural and agricultural lines. Since the age of twenty he has been an active member of both horticultural and agricul-

tural societies, and ever since beginning business for himself has been a most successful exhibitor of fruits at the State fairs. He is also a propagator and grower of nursery stock on a small scale.

Mr. Green is a loyal and true friend of the Agricultural College and never loses an opportunity to speak a good word for that institution. He has three boys, and frequently expresses it as one of his dearest plans to keep them so much interested in his chosen profession that they will all want to take the full course of study at the M. A. C.

Mr. Green has been secretary of the Hazellin Farmers' Club for two years, is a thorough believer in the work of both local clubs and the State Association, and can be safely depended on to take good care of the work in his portion of the State.

LETTER OF ACCEPTANCE.

To the Farmers' Clubs of Michigan:

Upon the return of the delegates appointed by the Maple River Club to attend the State Association of Farmers' Clubs, I was informed that I had been elected by your representatives to the office of president of the Association. A little later the receipt of a letter from ex-President Daniels, formally withdrawing and tendering to me on behalf of the Association the office which he has so well and acceptably filled, assures me that such was your action. I wish to assure you of my appreciation of the honor which you have conferred upon me, and my earnest prayer is that I may prove worthy of your confidence.

It would seem fitting at this time for your chief executive for the ensuing year to give some suggestions as to club work or to outline some new policy which he deemed expedient. This, however, is impossible, as I feel, and feel deeply, that the Farmers' Clubs are a grand institution doing a grand work in the best possible way. While lines of admonition or instruction are out of the question, my heart is full of words of cheer and congratulation at the wonderful growth of the Farmers' Club movement. We who have watched its growth from its infancy, have seen it develop into the lusty youth of to-day, and seeing the brilliant possibilities which are open in the future, can but feel that the organization is grounded on the solid rock, and that the policy of the past needs but little revising, if any, to be the policy of the immediate future. The few and isolated clubs of a few years back accomplished much, but now, with our vastly increased and rapidly increasing numbers, united as we are in the State Association, the opportunities for good are much augmented.

While I greatly doubt your wisdom in your selection of a president for the ensuing year, I have no doubt whatever of the success of Farmers' Clubs in Michigan. They have proved themselves a necessity and their future is assured.

E. J. COOK.

ADDRESS OF PRESIDENT J. T. DANIELLS BEFORE THE STATE ASSOCIATION.

Another year of Associational work has passed and again we meet in annual convention, to review the work—now of the past—and to plan for the duties and the labors of the future.

I cannot forbear to refer—even at the risk of repeating that which has been stated in former annual addresses before the Association—to the fact, undisputed and undisputable, of the unprecedented growth of our State Association, in strength, in usefulness and in public regard. It stands the test of that true measure of its worth—practical results attained.

When delegates from twenty-two Farmers' Clubs met in this room on Feb. 1st, 1894, to determine the feasibility and the advisability of organizing a State Association, sincere and earnest friends of club work felt serious misgivings lest the results should fail to justify the idea. Less than four years have passed and the number of local clubs has been multiplied by six, while the Association welcomes to its annual meeting delegates from all parts of the State, and in numbers,

quadrupled; and thus does the present give answer to the question of four years since, "Is it wise to form a State Association of the Farmers' Clubs of Michigan?" And this is but one feature of the good work already accomplished. Well may every club worker throughout the State in view of these facts, "rejoice and be glad."

It is not necessary to elucidate the fact that there are ever some changes

in the conditions that surround us, which though most desirable to have made—yet can they be made only through the medium and by the powers of united effort. This fact is exemplified all through human affairs, and needs no further proof. Again: This is a day of organization—this is a generation which seeks to accomplish by the uniting of individual forces and agencies—and those of other callings having now each their own distinctive organization, fully necessitates a more complete and thorough organization of that class, which though the most numerous and the most essential, yet are its members necessarily the most isolated—the farmer class. These, and other facts, are ample justification for our present efforts along these lines, were justification called for.

The Michigan State Association of Farmers' Clubs exists because it has a work to do. Its formation was opportune and its growth has been marvelous, while its work thus far accomplished has never shamed its friends. As the pioneer in its lines and methods, it has opened the way and led the vanguard, causing others to follow, and to-day similar State Associations of Farmers' Clubs are formed and doing good work in many of our sister States, while inquiries—looking to similar organizations—have been received by Secretary Wells from as far south as Georgia and from the west as far as Colorado. Thus is the leaven spreading and a National Organization may be not far distant. In consideration of the fact that this Association is "The Pioneer" in its distinctive methods and work, it should be exempt—in large measure—from criticism or censure, if it has made mistakes. But those best acquainted with its work see in it little cause for regret or complaint.

To those tried and faithful friends of the Association who have labored so wisely, so well and so persistently for the advancement of its best interests, I desire to express, on behalf of the Association, its most sincere gratitude. It is through your efforts and by your labors in its behalf that the Association stands to-day on the high and vantage ground to which it has already attained, while before it open broad fields with bright prospects. The work developing upon the Association's secretary has increased from year to year. The report submitted by Secretary Wells shows the extent and the scope of the work of the year now closing. Let the conscientious faithfulness with which those duties have been performed, though thoroughly burdensome at times, merit the warmest approval of this Association.

The organization well illustrates the workings of a pure democracy, in that it is composed of delegates directly and perhaps more fully amenable as representatives, than is found in any other organization, and herein may be found one principal source of its strength. Surely no one will question the statement that the nearer power is kept to its source—the people—the safer it is and the more surely will the people be well served. This State Association is but the medium through which is given expression to the will of the local clubs,

Again: The officers of this Association are rewarded for their services as such, not with "filthy lucre," which is so apt to tarnish the motives prompting to action, but instead their reward comes in that which is of true worth—the satisfying consciousness of good work well done. And it may not be inappropriate to suggest in this connection that better service would be rendered to the people of this republic were all public offices filled by men who were invited thereto not by the consideration of financial gain, nor by that of personal preferment, but instead by the more honorable and only safe motive, this satisfying consciousness of a public trust faithfully discharged.

Since our last annual meeting the Association has made its first attempt to influence legislation, and in favor of those measures which it advocates, and as expressed in its "Declaration of Principles," adopted one year since.

The results of those efforts with the legislature, while not all that could have been wished for, yet do they amply justify the belief that the State Association of Farmers' Clubs does wield, and that it is destined to continue to wield a powerful and a most beneficial influence upon legislation, and that the immediate future will show by results this to be true. But to most surely and fully accomplish this it is essential that every local club unite and work with the State Association, and that it shall show in the future as it has shown in the past suf-

ficient radicalism to be progressive, while possessing sufficient conservatism to be just.

While a careful review of the past, discovering both its successes and its failures—if there have been any failures—with the immediate cause or causes therefor, is often one of the best means by which to make suitable preparations for the future; yet it is not well to linger in the past, though pleasant its memories may be; for while retrospection may afford us this of real value, yet life and living are of the present, which demands our first attention, and our faces should be turned ever towards the future with its labors which await our doing. But before inviting your attention to the lines of work which it may be deemed best to take up in the immediate future, I desire to refer briefly to the great unanimity and promptness with which the local clubs from all portions of the State responded to the request of the State Association to forward petitions to the legislature asking for the favorable consideration of those measures by the legislature which were introduced and advocated at the instance of the State Association of Farmers' Clubs. It has been said, reiterated and insisted upon as being true, that the farmers will not unite—that they cannot be united—but abundant proof is at hand to show that the farmers, isolated in separated and scattered homes though they be, yet when important measures affecting their interests and the best interests of the people, are at stake and in jeopardy, the farmers can be united and can bring their united force to bear for the accomplishment of the object sought. And hereafter let none regard the agriculturist as unable to care for his own interests and for those interests entrusted to his care. The farmer of this day, unlike his predecessors of a few generations past, is taking his proper place in affairs, and this place is well to the front. No longer does he humbly say, as said the reprimanded soldier of the first Napoleon: "It is yours to command and mine to obey" but instead he has become properly self-asserting, and this is as it should be. The bread producer is the prime factor and cannot be ignored if correct results are to be reached. But do not understand me as advocating "classism," for it is with a feeling of commendable pride that attention is called to the fact that the State Association has not descended and I trust that it never will descend to the plane of advocating "class legislation." Just measures must not be deemed "class measures."

I cannot forbear the calling of your attention to the fact that one of the most forceful and essential agencies for the accomplishment of all this in which we so justly and truly rejoice, is the Farmers' Clubs' Department, in The Michigan Farmer. To the proprietors of that ably conducted and widely circulated publication, through whose generosity the Association has become possessed of the essential benefits of an official organ, so vitally necessary for the accomplishment of its purposes, the gratitude of this Association is due. In this department has been gathered from week to week the consensus of opinions held by the local clubs upon those principles and measures of which it was essential to know, thereby enabling the work to be conducted with unity of purpose and with harmonious action. But it is to the manner in which this department has been conducted, under the editorial management of ex-President A. C. Bird, that I desire to call your especial attention. For his earnest, continuous and most helpful efforts, here and elsewhere, for the promotion of the best interests of the work, our deep gratitude is due.

A careful review of the work of the past year, with its rich results, already ours, gives inspiration for the future and for future efforts. You are now to take under advisement the various interests of the Association and are to determine what shall be the work and by what means and methods it shall be prosecuted during the coming year.

The Association question submitted by the committee for the consideration of the clubs at the October meeting very properly sought to obtain opportune expression from each club as to the work which it deemed most essential and profitable for the Association to take up or to continue for the next twelve months. So far as the local clubs have given expression to their views, there appears to be a very great unanimity of opinion as to what that work should be, and that the organization of new clubs, with the increasing efficiency of those already formed, should most properly claim first atten-

tion. If this shall be your conclusion, the number of clubs may be nearly doubled within the next year and the 1,000 mark reached ere the recurrence of many annual meetings. There should be one club at least in each township, while some townships can well support two clubs. This will call for earnest work. It also means to every laborer in the cause a rich reward for good work accomplished. The 300 Farmers' Clubs already in the work, with a membership of 20,000 of the progressive men and women of the State, are bringing to those 300 communities and into those thousands of homes benefits and blessings not easily computed. The grounds which the Farmers' Clubs are working is a field distinctively their own and with methods peculiarly theirs, while the glorious results of their work reach far and wide.

It will not be forgotten in your deliberations, that ere our next annual meeting shall occur the Representatives and Senators, which will compose the legislature of 1899, will have been elected, and it will doubtless be deemed both wise and essential to reaffirm the resolutions bearing upon this subject which were adopted by this Association two years since. These resolutions may be epitomized as requiring of every candidate for public office and especially for a legislative office a pledge, that in the event of their election they will faithfully work for the spirit of the reforms which this Association advocates. At this time should preliminary work be done and the necessary steps taken looking to effective work with the legislature of 1899. Let nothing be left undone from now on which may be essential to the securing from the next legislature that considerate and well-advised action upon the principles and measures which this Association advocates which shall result in their incorporation into the laws of the State. Through wise, earnest and persistent effort only on the part of the Association will this be accomplished, but the object sought demands and justifies best efforts.

Among the important duties devolving upon this convention, is that of the selecting of those into whose hands are to be placed, to a very large extent, the many interests of the Association during the coming year. In consideration of the large discretionary powers which under its somewhat distinctive organization is placed in the hands of the Associational officers, it is of great moment that in the selecting of those officers wise considerations alone shall guide.

As with each preceding annual convention—so will it be with this one—people will carefully scrutinize its every act and critically review every measure which it shall adopt. Your acts and your conclusions must stand the judgment of public opinion. Let them be such that they will not suffer when tried before the bar of this, the final court. It has heretofore been fully demonstrated that this Association is composed of delegates sufficiently broad in their views and sufficiently charitable in their sentiments, to permit with safety the full examination of every question which should come before it for consideration. Let its good name and fair fame be fully maintained and let those courtesies and that forbearance which have heretofore prevailed, abide with us at this time. If it shall seem that work for the coming year has not been outlined herein with sufficient definiteness and clearness, let it be remembered that the Association has now the experience of past years to aid it and scarcely needs other assistance.

As your presiding officer, I shall, to the best of my ability, endeavor faithfully to discharge the duties devolving upon me. I ask for your charitable judgment if errors occur, and ask for and expect your earnest co-operation with me, to the end that through the courteous and calm deliberations of the delegates here assembled, over every important question which shall come before you for adjustment, right conclusions only may be reached, and that the work here done shall establish beyond question the ability and integrity of this convention.

REPORTS FROM LOCAL CLUBS.

TWO NEW CLUBS.

A committee from the East Blackman and West Leoni Club organized the South Leoni Club on Dec. 22d, at the home of Mr. and Mrs. A. A. Sullivan. The officers elected were as follows: President, Frank Nichols, of Jackson; vice-president, W. A. Noxon, of Jackson; secretary, Mrs. A. E. Cle-

ment, of Leoni; treasurer, O. N. Sover, of Leoni; reporter, Mrs. Eva Cooley, of Michigan Center. Meetings will be held the second Wednesday of each month.

A meeting was held at the home of Mr. and Mrs. Thos. Robinson, Dec. 22d, for the purpose of organizing a farmers' club for the benefit of the farmers of Berlin township. The following officers were elected: President, H. L. Ives; vice-president, R. O. Gould; secretary, Myron Edgerton; corresponding secretary, Mrs. H. L. Ives; treasurer, Mrs. Thos. Robinson. Arrangements were made for the first regular meeting to be held at the home of H. L. Ives, January 12th.

OXFORD FARMERS' CLUB.

This club held a very pleasant and profitable meeting in November at the home of O. D. Lomis. In a discussion of the past year's work, it was generally conceded to have been, on the whole, very satisfactory. Still all agreed that there was too much negligence in preparation for the discussion of questions and other exercises. Two prominent reasons for this were: 1. The work was new to most of our members. 2. Lack of time for suitable preparation. Notwithstanding obstacles, development is plain to be seen.

In discussion of the system of National Crop Reports opinions differed, some believing them to be a benefit, others not.

Mrs. George Cowdin thought the most practicable way for a farmer's wife to add to the finances of the farm was to look well to the ways of the household. What is gained in out of door work is likely to be overbalanced by loss through neglect within. Mrs. Adams thinks careful and intelligent poultry raising the most profitable means of increasing the finances. The thoughtful wife and daughters can save much by repairing and making over worn garments. A man must have his wife's help to be a successful farmer, and when he is successful she is entitled to as much credit as he.

M. L. Frink and Payne Chappel were elected delegates to the State convention.

REPORTER.

WIXOM FARMERS' CLUB.

The December meeting was held at the house of Mr. and Mrs. Melvin Pratt. There was a good program, large attendance, lively interest taken in the discussions, and a noticeable evincement of amity and good fellowship which stamped this as a model meeting.

"The Association question, "How can we improve the present methods of supporting and conducting the institutes?" elicited much criticism. In regard to the method of supporting, the leader took the ground that an appropriation from the public for the purpose savors too much of class legislation, and that it is inequitable to tax people of all callings for the special benefit of those only who are engaged in agriculture. He thought that farmers would be likely to consider it unfairness if they were compelled to pay a tax for the maintenance of an institution the sole purpose of which was to advance the interests of either lawyers, doctors, merchants or any other single class not objects of charity.

Hence his opposition was to the principle involved and not to the institutes, which he thought should be supported wholly by voluntary contributions. Others expressed similar opinions, while some sentiment was voiced in justification of the present method, the principal of which was the expressed fear that the institutes would cease from lack of pecuniary support if the appropriations were withheld.

At the close of the discussion a resolution was unanimously adopted, bearing in substance that the State Board of Agriculture be required to furnish an itemized account of disbursements of the Institute appropriation, the same to be published in the Institute Bulletin.

B. T. NICHOLSON, Cor. Sec.
Oakland Co.

WHEN WRITING TO ADVERTISERS PLEASE MENTION THAT YOU SAW THEIR ADVERTISEMENT IN THE MICHIGAN FARMER.

GOOD POSITIONS

secured by graduates of Dodge's Institute of Telegraphy, Valparaiso, Ind. Tuition, full course, (time unlimited) including typewriting, \$36; by the month \$7. Good board \$1.40; furnished room 25c per week. Good demand for operators. Catalog free.



CRINDING MILLS.

Before purchasing a Mill for grinding Feed or Meal, or anything that can be ground on a Mill, write us for catalogue and discounts.

Guaranteed and shipped on trial. Address

SPROUT, WALDRON & CO.,

Muncy, Pa.

Manufacturers of French Burr Mills, Corn Shellers, Crushers, and full line Flour Mill Machinery.

Wabash Line

THE SHORT ROUTE

TO Chicago, St. Louis & all points West.

Home-seekers and California tourists write
R. G. BUTLER, D. F. & P. A.
9 For St. West, (Hammond Building.)

Detroit, Gd. Rapids & Western R. R.

(FORMERLY DETROIT, LANSING & NORTHERN.)

And Chicago and West Michigan Railway.

Popular routes between Detroit, Lansing, Bay View Grand Rapids, Petoskey, Manistee, Muskegon.

Trains leave Detroit, Fort Street Station, as follows:

	A.M.	P.M.
For Lansing and Grand Rapids	8:00	1:10
Jonas and Greenville	8:00	1:10
Muskegon and Traverse City	8:00	1:10
Petoskey	8:00	...
Big Rapids	8:00	1:10

Arrive at Detroit 11:45 a.m., 5:40 and 10:20 p.m. Daily except Sunday. Parlor cars on all trains.

City Passenger and Freight Office, 7 Fort St. west, Detroit. Phone 368.

BLAINE GAYETTE, Dist. Pass'r Agent.

JAMES AUSTIN, Commercial Agent.

GEO. DEHAVEN Gen. Pass'r Agent.

GRAND TRUNK RAILWAY SYSTEM.

At Depot, foot of Brush St. City office, 84 Woodward Ave. Telephone 39.

LIVE EAST VIA PORT HURON

	A.M.	P.M.
For Lansing and Grand Rapids	8:00	1:10
Jonas and Greenville	8:00	1:10
Muskegon and Traverse City	8:00	1:10
Petoskey	8:00	...

Arrive at Detroit 11:45 a.m., 5:40 and 10:20 p.m. Daily except Sunday. Parlor cars on all trains.

City Passenger and Freight Office, 7 Fort St. west, Detroit. Phone 368.

BLAINE GAYETTE, Dist. Pass'r Agent.

JAMES AUSTIN, Commercial Agent.

GEO. DEHAVEN Gen. Pass'r Agent.

DETROIT AND MILWAUKEE DIVISION.

	A.M.	P.M.
6:55 am Saginaw, G. Haven & Milwaukee	9:25 pm	
9:15 am Pontiac and Int. stations	2:00 pm	
11:30 am G. Rapids, Milwaukee, Chicago	3:55 pm	
4:45 pm Saginaw, Lansing & G. Rapids	11:50 am	
5:45 pm Pontiac & Intermediate stat's	8:10 am	
8:30 pm Lansing, Battle Creek & Chico	7:05 pm	

Arrive at Detroit 11:45 a.m., 5:40 and 10:20 p.m. Daily except Sunday. Parlor cars on all trains.

City Passenger and Freight Office, 7 Fort St. west, Detroit. Phone 368.

BLAINE GAYETTE, Dist. Pass'r Agent.

JAMES AUSTIN, Commercial Agent.

GEO. DEHAVEN Gen. Pass'r Agent.

EAST VIA WINDSOR

	A.M.	P.M.
Toronto, Buffalo and New York	1:50 pm	
London and Int. stations	5:40	
London and Int. stations	9:05 am	

Arrive at Detroit 11:45 a.m., 5:40 and 10:20 p.m. Daily except Sunday. Parlor cars on all trains.

City Passenger and Freight Office, 7 Fort St. west, Detroit. Phone 368.

BLAINE GAYETTE, Dist. Pass'r Agent.

JAMES AUSTIN, Commercial Agent.

GEO. DEHAVEN Gen. Pass'r Agent.

Elgin System of Creameries

It will pay you to investigate our plans and visit our factories, if you are contemplating building a Creamery or Cheese Factory. All supplies furnished at lowest prices. Correspondence solicited.



A MODEL CREAMERY OF THE TRUE SYSTEM

True Dairy Supply Company,

303 to 309 Lock Street, Syracuse, New York.

Contractors and builders of Butter and Cheese Factories, Manufacturers and Dealers in Supplies. Or write

R. E. STURGIS, General Manager of Western Office, Allegan, Mich.


Miscellaneous.
THE NORTH WALK MYSTERY.

BY WILL N. HARBEN.

[Copyright 1897, by Will N. Harben.]

(Continued.)

"Oh, I see now," began the doctor eagerly, and then he stopped suddenly. "But, no; Stanwood said he did not strike a match, and Ralph Benton said his father did not smoke."

"The murderer does, though, and paused to light a cigar after he had fired a revolver within 200 yards of a house full of men and women," said Hendricks, with a dry laugh. "At least, that's about all the explanation I can get out of the end of the match. However, there is one thing you have not yet thought of as an explanation for the match having burned down so short."

"What is that?"

"I wonder it did not occur to you that it might have continued to burn on the ground after it fell from the hand of the man who struck it."

"I have always said I was an ass," said Lampkin. "A 5-year-old child could have thought of that."

"Then the 5-year-old child would have been far from the truth," said the detective, enjoying the game he was playing. He held the piece of match between the nail of his thumb and forefinger and extended it toward the doctor. "You see," he began, "that the match has burned evenly all round; no farther on one side than another."

"That's plain," replied Lampkin.

Hendricks returned the tiny bit of wood to his pocket and took a match from his case and struck it.

"Watch this," he said, and when the match was half consumed he laid it still burning on the ground. The flame was instantly diminished, for only the top of the match continued to burn. Presently it went out, and Hendricks picked it up. "See," he said, with a gratified smile. "The unburned part, owing to the moisture of the earth, is longer where it lay against the sand. When I picked up the match near the body of the dead man, it was lying flat on the sand as this one was just now."

"So you know it was held unusually long in somebody's fingers?" said Lampkin.

"I have still another proof of it."

"What is that?"

Hendricks took out his lens and held it over the pieces of match he had found near the corpse.

"If you will look closely," he said, "you'll see slight indentations at the very edge of the fire line on two sides of it."

"I see," exclaimed Lampkin. "They were made by finger nails."

"Exactly," returned the detective, "and nails which were pressed down firmly for some reason or other."

"You are simply wonderful," said Dr. Lampkin admiringly. "But what became of the burned, charred part of the match?"

"Good! You are progressing!" cried Hendricks, slapping his companion on the shoulder. "I looked for it. It must have clung a little while to the clothing of the murderer, for I found it on the walk half way between the body and the spot where the tracks ended. I did not pick it up because it could be of no use to me."

Lampkin's brow was contracted thoughtfully.

"What do you deduce from the whole match idea?" he asked.

"Absolutely nothing so far," replied the detective. "Later I may see some reason for a person desiring to see the face of a man he has shot down in the darkness and running the risk of being captured in order to do so."

"That much is certainly interesting," replied Lampkin. "It looks a little as if he were in doubt as to whom he had shot, doesn't it?"

Hendricks stepped from behind the trunk of a big tree to get a view of the spot where the body lay.

"I see quite a crowd over there," he said. "It is Meynell, the coroner, and his men. Let's join them. The inquest, I understand from the chief, was delayed so that I might be present. We got here quicker than was expected, as if I'd wait to take a bath and eat a hot breakfast while such a matter as this was in the wind."

CHAPTER V.

After taking a look at the body and having Hendricks point out the tracks in the sand and the spot where he had found the revolver, the coroner and his

men went into the house. Ralph had decided, as it would be necessary to hear the testimony of the ladies of the household, to have the inquest held in the library.

Dr. Lampkin saw Hendricks eying the different members of the household covertly as they came in and took seats after Mr. Meynell had announced his readiness to proceed with the inquest. Arthur Montcastle and Miss Benton were the last to arrive. They sat on a sofa a little removed from the others of the party.

Charles Stanwood was the first witness called. He testified that he was waked about half-past 1 o'clock by Miss Hastings, who informed him she had heard the report of a revolver in the garden from the direction of the north walk. He had dressed hastily and gone down stairs with Miss Hastings, who objected to being left up stairs alone. They had found Mr. Montcastle below with Miss Benton, and Ralph Benton soon afterward joined them.

At this juncture Hendricks, who was sitting beside Mr. Meynell, looked sharply at the pair on the sofa and whispered something into the coroner's ear. The officer nodded and put a question to the witness.

"Do you happen to know which room is usually occupied by Miss Benton?"

"It is directly across the hall from this one," replied Stanwood.

Miss Benton threw a startled glance at Hendricks, and then her eyes met Montcastle's steady, calm gaze. It seemed to Lampkin that it held a warning, for the girl nervously balled her handkerchief in her hand and stared at the floor.

"And which room was occupied by Mr. Montcastle?" was the coroner's next question.

Miss Benton raised her eyes in a flurried way, but Montcastle leaned forward, touched her hand and whispered something to her.

"Mr. Montcastle's room is adjoining Miss Benton's," answered Stanwood.

"You were the first to approach the dead man, I think, Mr. Stanwood, were you not?" continued Mr. Meynell.

"I was," replied the witness.

Again Hendricks suggested a question to the coroner.

"Was Mr. Benton quite dead when you discovered him in the garden?" asked Mr. Meynell.

"Yes, and quite cold," was the reply. "Miss Hastings said she had heard the report about an hour before she waked me. She did not attach much importance to it at first, but as she had heard Mr. Jacob Benton leave his room and he had not returned she finally became uneasy about him."

"May I ask the witness some questions?" asked the detective.

"Certainly, as many as you like," answered the court.

"Did you touch the body?" asked Hendricks.

"I opened his shirt and laid my hand on his heart to see if life were wholly extinct," was the answer.

"When you and Miss Hastings came down stairs, you say you found Mr. Montcastle and Miss Benton up?"

"Yes."

"Where were they?" asked the detective.

"They were in the back yard, or rather they were coming in from the side veranda."

"I think that will do for the present, Mr. Stanwood," said Hendricks. He turned to the coroner, "I believe, Mr. Meynell, I should next call Mr. Montcastle."

Montcastle did not rise, but simply signified his readiness to testify by a nod of the head.

"Please tell us, Mr. Montcastle," said Hendricks, a strange sparkle of expectation in his eyes, "if you heard the report of a revolver in the garden last night."

"I—I did not," said Montcastle, stammering.

"Then you were not waked by it?"

"No, I was not." Hendricks' brows came together in a thoughtful pucker, and then he astonished Dr. Lampkin by saying, "That will do, Mr. Montcastle," and then to the coroner, "Please call Miss Benton next."

The young woman started to rise, but Montcastle whispered something to her, and she sank back on the sofa, looking pale, fatigued and excited.

"Did you hear the report of a revolver in the garden last night?" asked the detective.

"I don't think—no, I did not," was the reply.

"You could not have been awake when it was fired, then?" said Hendricks interrogatively.

"I don't know, sir. I presume"—The girl's eyes met Montcastle's, and

she did not finish. Hendricks bit his lip and pulled his beard. Then he surprised Lampkin by asking a question in an indifferent tone, which seemed quite irrelevant to the subject.

"Do you know, Miss Benton, who informed the police of the murder?"

"My brother, I think," replied the young lady.

"Thank you. That will do," said the detective. He leaned back in his chair and seemed to have his mind on something a thousand miles away.

The coroner next called for the testimony of Miss Hastings.

"You were waked by the report, I believe, Miss Hastings?" he began.

"I was not. I was already awake," said Miss Hastings.

Hendricks seemed to pull himself together suddenly. He bent forward and whispered to Mr. Meynell.

"Were you waked by something else, or had you not gone to sleep?" questioned Mr. Meynell.

A look of hesitation crossed the face of the witness. She glanced hurriedly at Ralph Benton, who stood leaning against the mantelpiece, and started to speak, but seemed unable to formulate a reply.

The coroner repeated his question, glancing at Hendricks as if for approval.

"I was waked by voices in Mr. Benton's room," said Miss Hastings.

"When was that?" asked Mr. Meynell.

"About 20 minutes before I heard Mr. Benton—Mr. Jacob Benton—go down stairs."

"Did you recognize the voices?" put in Hendricks, with an apologetic nod to Mr. Meynell.

Again Miss Hastings' eyes crossed over to Ralph Benton, but he was not looking at her.

"Only Mr. Jacob Benton's," said the witness.

"Could you hear what he was saying?"

"Only a few words here and there."

"What were some of the words?" went on Hendricks firmly.

"I think I heard him say once—it seemed to be when the door was opened for some one to pass out—that he would disown somebody next day."

"Can you recall the exact words?" asked Hendricks, his eyes twinkling.

"I think he said: 'You are no child of mine. I shall disown you to-morrow.'"

Ralph Benton was idly examining a pipe which he had taken from the mantelpiece. He did not seem to be listening to what the witness was saying.

"You say the door was opened," said Hendricks. "Did anyone pass out?"

"I think so, sir," replied Miss Hastings. "I heard someone descending the front stairs near my door."

"And after that?" went on Hendricks. "After that?"

"I heard Mr. Jacob Benton walking about in his room for perhaps 25 minutes. Then he went into his laboratory and then descended the rear steps, which lead to the garden."

"How long was it after he descended the stairs before you heard the report?" asked Hendricks.

"Only two or three minutes," was the reply.

"I believe that is all I wish to ask the witness," said Hendricks to the coroner.

Mr. Meynell told Miss Hastings that she might sit down, and then he asked Mary and Jane, the two housemaids, some questions. Neither of them had been waked by the report of the revolver, nor had either heard the bell when Miss Hastings rang. They did not know she had wanted them till after the police had been called in. Early in the evening they had been told by Miss Benton that they need not stay up; that she and Mr. Montcastle were going to finish a game of chess. Miss Benton had promised to see to the lights and close the house.

The coroner called for the testimony of Wilson, the gardener, and Edward Jarnagin, the coachman. They confessed to having drunk a good deal of beer the previous night, which perhaps had made them sleep more soundly than usual and caused them not to hear the revolver, though the room they occupied over the stable, in the lower part of the grounds, was near enough for the report to have reached them.

The coroner was asking them some unimportant questions when Hendricks rose and tiptoed across the room to Lampkin.

"Will you do something for me?" he asked.

"Gladly," replied the doctor. Hendricks lowered his voice to a whisper:

"Go to the nearest office and telegraph Johnson to bring the best bloodhound I have. Then meet me here."

"All right." Lampkin picked up his hat and rose.

"Stay," said Hendricks, following him to the door. "While you are out you'd better eat something. I shall do without till later."

CHAPTER VI.

Hendricks went back to his chair beside Mr. Meynell, who seemed to be waiting for him.

The coroner glanced at a sheet of paper on which he had written the names of the witnesses.

"I think I have called them all except the son of the old man," said he.

Just then they heard a groan from Ralph Benton and saw him clutching at the mantelpiece. A china cup and saucer fell to the hearth with a crash, and the young man sank slowly to the floor, face downward.

"Oh, he has fainted!" cried his sister, and she ran to him and tried in vain to raise him up. Montcastle secured a pillow from the sofa and put it under the young man's head. Hendricks sprang up to get some water, and finding the jug on the table empty he ran into the next room. There he filled a glass from a water cooler and brought it back. As he entered Ralph was reviving. The young man opened his eyes, smiled faintly, drank a little of the water held to his lips by his excited sister and then drowsily closed his eyes.

"Is he subject to fainting attacks?" asked Hendricks.

"He used to have them when a child," answered Miss Benton. "Oh, I don't know what to do! It is all so awful! My poor father is dead, and if brother were to die I don't know what I should do. Call Wilson and Jarnagin." She looked up at Montcastle. "He must be removed to his room. It has all been too much for him. I hope it will soon be over." She was looking at Hendricks. "Surely you won't keep us here much longer?"

"Will his testimony be necessary?" asked the coroner, touching the detective on the arm.

"Why, not at all," said Hendricks. "You won't find out anything else from the family and household. We must look outside, my friend, outside."

"Thank you," said Miss Benton, holding a bottle of smelling salts to her brother's nostrils and rubbing his forehead tenderly. Wilson and Jarnagin approached. They raised the young man between them and bore him from the room. They were followed by the other witnesses, and Hendricks, the coroner and the jury were left alone in the library. A verdict was soon rendered. It read as follows:

"We find that Jacob Benton met his death from a shot fired by an unknown person."

As the jury were retiring Hendricks turned to Mr. Meynell.

"What were the contents of the dead man's pockets?" he asked.

The coroner opened a brown paper parcel on the table. It contained a notebook, a purse of \$45, a penknife, a lead pencil and a watch and chain.

"Looks as if nothing were taken," said the detective tentatively.

"No; robbery was not the motive evidently, Mr. Hendricks. You can safely bank on that."

Hendricks nodded thoughtfully.

"I should like to keep these things along with the revolver if you have no objection," said he. "They may suggest an idea for operation. For the present I am at sea in a very poor craft."

"Mystery to me," said the coroner. "By the way, I presume I did right in letting the undertaker look after the body. I see they are bringing it round to the drawing room."

"Perfectly right," replied the detective. "Oh, I say, Meynell!" as the coroner was turning away. "I presume we have seen all the people who usually live in the house, haven't we?"

"Well, no, not exactly," replied the coroner. "There is a Mr. Brooks Allen, an elderly man, who has been for years associated with Mr. Jacob Benton in his scientific work. I was told by the chief of police that he lives here about half his time, though he has not been in East Orange for a week or so."

Hendricks pulled his beard reflectively.

(To be continued.)

Pure blood is absolutely necessary for perfect health. Hood's Sarsaparilla is the one true blood purifier, and great health-giver.

The Dairy.

We have a complete Dairy and Farm Creamery in constant operation on the Experiment Farm at Climax, Mich. This is personally conducted by J. H. Brown. All dairy correspondence should be sent to Climax, Mich.

For the Michigan Farmer. A CREAMERY REPORT.

While not a subscriber, I am still a reader of your valuable paper, and I thought I would send you my mite in the shape of our creamery report.

The fourth annual meeting was held December 13. When we started, the "croakers" gave us six months to run. The past year has been the best yet. In May the receipt of milk was large enough to warrant reducing the price of making from 4 to 3½ cents per pound, and in June it was reduced to 3 cents per pound. The aim is to clear 10 per cent on capital stock, and anything more is returned to patrons by reducing the price of making. Paid milk drawers \$3,087.59; received from patrons, at 10 cents per cwt., \$2,380.35; costing the company \$757.50 to get the milk. Just as soon as the 10 cents per cwt. pays for drawing, the cost of making will be reduced still lower. 2,407,675 pounds of milk were received, which made 111,162 pounds of butter, valued at \$19,191.44. Average yield, 4.62 pounds of butter to 100 pounds of milk. Average price 17.26 cents. Those that send steadily are better pleased each year with the creamery. This year I had three heifers, and one of those came in when 15 months old—now, do not think I advise breeding at that age, but I could not avoid it—and six old cows, and I have received in 11 months \$222.25 for butter, after paying for making and drawing. The last of my cows came in March.

I have only 50 acres of land and do not rent any. Since November 3, 1896, I have sold 38 hogs of my own raising, and six I bought when pigs and fattened. Also received \$8.50 in cash for meat from the hog I killed for myself, besides my year's meat, and wife says she has six gallons of old lard yet. I now have 28 pigs, which will be sold in the spring, and four old hogs. Am wintering nine cows and three head of young stock. Received \$47 for my calves and \$41 for a cow and calf I sold this fall. The cow was a Durham and went dry too long to suit me. I am a friend of the Jerseys, for they do not go dry two and a half or three months, and it does not require near the feed to keep them.

Next year I expect to have four full-blood Jerseys and three half-breeds. I expect to have ten cows. My wife helps me milk. She says she would sooner milk four cows than make butter from two. I shall raise my calves and keep them till fall. I raise them on factory milk and middlings gruel. Of course it requires some "fussing," but we think it better than raising wheat. It has one drawback, viz., it ties me at home so close. But where is perfection? Anyway, I say "long life to the creamery."

CREAMERY CRANK.
Woodland, Dec. 18, 1897.

For the Michigan Farmer.

DAIRY COMMENTS.

GUTTERS WITHOUT AN OUTLET.

The gutters in our cow stable are so arranged that the top is but a very little higher than the walls of the liquid cistern into which the troughs are drained. All works very satisfactorily until the cistern becomes full, or nearly so, when the liquid backs water and the gutters begin to fill for the want of a suitable outlet.

The only way to remedy the difficulty is to empty the cistern, giving it a chance to drain. This will be very obvious to anyone. The action of the liquid in the troughs at a time when no outlet is supplied has caused the writer to become convinced that drainage of some sort is almost a necessity; in fact, it is difficult for us to see how a gutter can be successfully handled without.

It may seem that the moisture might be absorbed by an ample amount of litter, and perhaps such is the case, but our experience with gutters, when they are in such a condition, has led us to believe that such a course would be neither possible, nor practical if it was. Our experience has been that it is practically impossible to get or keep enough bedding in the trough to absorb the necessary liquid that will always be found there.

The writer's second objection would be that it would not be practical if it was possible; at any rate, such would be the case on our farm. One of the main reasons for putting gutters into

our stables instead of continuing in the old-fashioned way, was to lessen the labor and economize in the use of straw for bedding.

Were it necessary to use a sufficient amount of bedding in our stables to absorb all of the liquid in the gutters, in the writer's opinion we would lose the force of both ideas of economizing both labor and litter.

During the summer months, when the cattle are only stabled at milking time, we use practically no litter in the stables at all, there being no need of it. All liquid falling in the gutters accumulates in the small cisterns prepared for the purpose. If no provision was made to take care of this supply, it would be necessary to use sufficient litter to absorb the moisture, providing such a thing was possible.

One strong advantage in having an outlet is that the gutters are always practically dry. Such will be the case if the gutters are cleaned regularly so that the free passage of the liquid is not obstructed. Our experience has been that this mode is of considerable importance during the hot summer months, when one must use all possible means practical to keep down disagreeable odors.

of the subject our opinion would be different than what it is. Nevertheless, this has been our experience and the result of our observation so far as it has extended.

PARTNERSHIP IN SILO MACHINERY.

Average farmers who have or expect to have silos will find it much to their advantage and quite a material reduction in the cost, if they would "form partners" and purchase machinery together. In some respects there are no doubt serious objections to such a plan, yet, where proper existing conditions are brought to harmonize, such arrangements can be made of considerable mutual benefit.

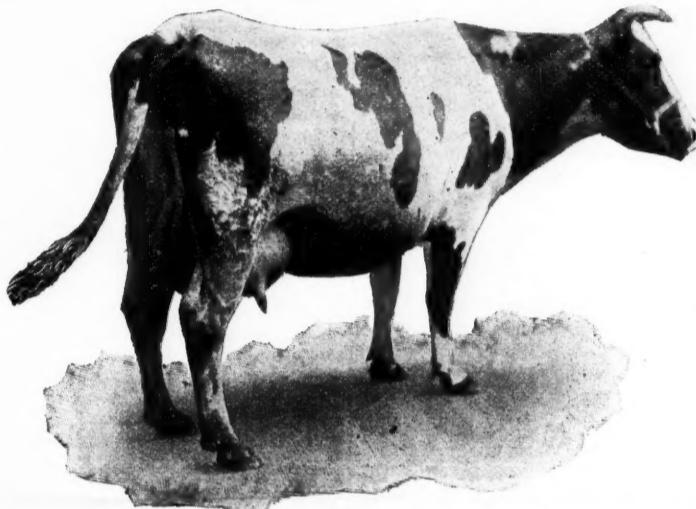
During the past season one ensilage outfit, consisting of an engine and cutting box, filled six silos to the writer's knowledge. This, however, is an extreme case; still it will illustrate what can be done when necessity demands. In this instance four silos were filled before any frosts had interfered with the work; the last two after the corn had been cut slightly, more or less.

One of the severest objections to the silo is the first expense and the cash outlay every year. Both of these difficulties can be obviated to a considerable extent by partnership in machin-

ery. Under certain conditions a silo might pay, even on a farm where but a half dozen cows are kept. We have no doubt that it paid friend Reynolds, under the conditions which existed on his farm. But from all we have seen and "talked over" with farmers all over the country we believe, in a majority of cases, that the silo is predominantly for the large dairy farmer, who constantly keeps ten or more cows and makes a specialty of milk, cream or butter.

On many farms, where silos are filled, the only machine kept on hand is the cutter (or shredder) and carrier. An engine is generally best to utilize for motive power, and the threshing engine is usually procurable at this time.

In a neighborhood where the farmers belong to the Grange or Farmers' Club, or are regular readers of The Michigan Farmer (or some other good farm paper), we should not fear to advise buying and using silo machinery in partnership. But under other natural conditions, that is, where ignorance and prejudice prevail, we should prefer not to be "mixed up" in partnership machinery.—Ed.)



Holstein cow "Joanna's Perfection," registered No. 27904, H. F. H. B.; weight 1,510 lbs.; calved Dec. 18th, 1890. Sire—"Wasco," out of the great show bull, "Sir Henry of Aaggie." Dam—"Joanna," a distinguished show cow. Dates of birth of last two calves Jan. 7th and Dec. 8th, 1897. Last calf is a male and weighed one hour after birth, without food of any kind, 136 lbs. She was milked straight through from calf to calf—335 days—and gave 14,987 lbs. of milk.

NUMBER OF COWS FOR A SILO.

It is seldom that the esteemed editor is far from right in his opinions; but it seems to the writer that he must beg to differ from Mr. Brown in the number of cows necessary to make a silo a practical and paying investment.

The editor says twelve is the minimum number, and perhaps in the majority of cases he is entirely right. But from our experience and somewhat limited observation, it seems to the writer that this number is too high by half. At the present time we are only handling eight cows, yet we have no cause to complain. When our silo was first built we had only four or five cows, but even at that number we thought the silo was paying well. Of course when we say four or five cows the usual number of young stock is included, which generally means as many yearlings as there are cows, and an equal number of calves, besides a bull, perhaps.

There is one point which will go to substantiate the editor, and that is the first expense. In our case the silo was framed into a necessary addition to the barn two or three years before the silo itself was finished. Thus the expense was not all at once. Then, again, we have not purchased the usual outfit of machinery, so far being fairly fortunate in being able to hire the ensilage cut nearly if not quite as cheaply as would have been the case had we been the owners of the regular outfit.

Thus it can be seen that our expense has not been felt as much as though we had been obliged to make an investment of from two hundred to three hundred dollars in a single season. Still, from our experience, we are not quite sure but what it would have paid well had we been obliged to do so. Much depends on the circumstances of the investor whether or not it would pay.

It seems to the writer that at least nine-tenths of the farmers, by taking advantage of their surroundings, including a reasonable amount of forethought and good judgment, can make the silo a good investment where only five or six cows are kept, with the understanding that the usual quota of young stock are fed also.

Still the editor doubtless has good grounds for his position, and perhaps had the writer an extensive knowledge

A Strange New Shrub that Cures Kidney and Bladder Diseases, Rheumatism, etc.—Free.



DISORDERS OF THE KIDNEYS AND BLADDER CAUSE BRIGHT'S DISEASE, RHEUMATISM, GRANULOUS PAIN IN THE BACK, FEMALE COMPLAINTS, URINARY DISORDERS, DROPSY, etc. For these diseases a POSITIVE SPECIFIC CURE is found in a new botanical discovery, the wonderful KAVA-KAVA SHRUB, called by botanists, the *piper methysticum*, from the Ganges river, East India. It has the extraordinary record of 1200 hospital cures in 30 days. It acts directly on the Kidneys and cures by draining out of the Blood the poisonous Uric Acid, Urates, Lithates, etc., which cause the diseased conditions.

Rev. W. B. Moore, D. D., of Washington, D. C., testifies in the *Christian Advocate*, that it completely cured him of Kidney and Bladder Disease of many years' standing. Hon. R. C. Wood, of Lowell, Ind., writes that in four weeks the Kava Kava shrub cured him of Kidney and Bladder disease of ten years' standing. Many ladies, including Mrs. James Young, of Kent, Ohio, and Mrs. Alice Evans, of Baltimore, Md., testify to its wonderful curative powers in Kidney and other disorders peculiar to womanhood.

That you may judge of the value of this Great Specific for yourself, we will send you one Large Case by Mail FREE, only asking that when cured yourself you will recommend it to others. It is a Sure Specific and cannot fail. Address, The Church Kidney Cure Company, No. 409 Fourth Avenue, New York City. Mention this paper.

SEE THAT HOOK?
WITH THE
IMPROVED CONVEX DEHORNER

you can cut off
any size shape
kind of horn without crushing. No other dehorner will do this. Catalogue free.

WEESTER & DICKINSON, Christina, Pa.

Feed Cookers and Tank Heaters
BEST AND CHEAPEST ON EARTH
ASK YOUR DEALER OR SEND TO US
FOR CIRCULAR.
Economy Mfg. Co., Homer, Mich.

You'll be Enthusiastic

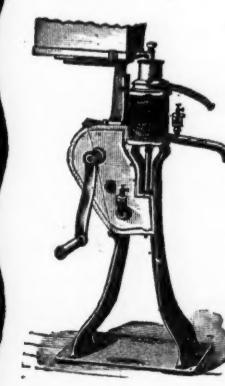
When you learn how many and how valuable are the advantages that attend the use of these famous Separators. Does the advantage of getting more cream out of your milk than by any other means count for anything with you? Does the advantage of better butter quality count for anything? Does an increase of 15 per cent. more butter mean anything to you? If so, you should investigate the

IMPROVED UNITED STATES SEPARATOR

There is not a better separator in the world than this. Dairymen who have tried several and conducted comparative tests, say there are none so good. It is a fact that the Improved United States Cream Separator separates the cream completely, and does it quicker and at less cost than any other. It runs easily, operates easily and cleans easily. Isn't it to your interest to learn all you can about it?

Write us for Catalogues and further particulars, which we will gladly send FREE. Beware of imitations and infringements. Agents wanted where we are not represented.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.



THE MICHIGAN FARMER
AND
State Journal of Agriculture.

THE LAWRENCE PUBLISHING CO.,

EDITORS AND PROPRIETORS.

M. J. LAWRENCE, - - - President.
M. W. LAWRENCE, - - - Vice-Pres.
M. L. LAWRENCE, - - - Secretary.

ROBERT GIBBONS..... Associate
J. H. BROWN..... Editors.

Nos. 39 to 45 Congress St. West,
DETROIT, MICH.

TERMS OF SUBSCRIPTION:

ONE YEAR Postage paid..... \$1.00
SIX MONTHS, " " " .60
N. B.—We will always stop sending paper when the time for which it is paid has expired, so that to avoid missing any numbers, all should renew promptly.

Always send money by draft, postoffice money order, registered letter or by express. We will not be responsible for money sent in letters. Address all communications to, and make all drafts, checks and postoffice orders payable to the Lawrence Publishing Co.

ADVERTISING RATES:

Regular Ads. per line, each insertion..... 25c.
Business Notices, solid minion, charged count..... 55c.
Regular Reading Notices, set in reading matter type, charged count..... 65c.
Special location 25 per cent extra.

No Ads. Inserted for less than 75c. per insertion. Cuts and double column Ads. inserted at regular rates for space occupied.

Ads. displayed or leaded to suit advertisers, but are charged per line solid Agate measurement, or \$3.50 per inch each insertion.

No Lottery, Quack Doctor, or Swindling Advertisements inserted at any price.

SCALE OF DISCOUNTS:

The following discounts will be made on orders sent at one time for one advertiser, amounting to \$20 or over, to be completed within one year:
On \$ 20 and under \$ 50..... 5 per cent.
" 50 " " 100..... 10 " "
" 100 " " 200..... 15 " "
" 200 " " 300..... 20 " "
" 300 and over..... 25 " "
No deviation from above rates.

DETROIT, SATURDAY, JAN. 8, 1898.

This paper is entered at the Detroit Postoffice as second class matter.

LOWER RATES OF INTEREST.

It is apparent that money is to be cheaper in this country than ever before in its history. The rate of interest is sinking lower each year with the accumulation of capital and the consequent increased demand for safe investments. A pointer in this direction is the recent action of the savings banks in this city reducing their rate on deposits to 3½ per cent. It is not likely this rate can be held very long. It will be 3 per cent to depositors and 4½ and 5 per cent to borrowers. It is doubtful if savings banks can be conducted and kept solvent on less than 1½ per cent on the capital loaned. Of course the larger the aggregate of deposits the less the cost of carrying on the business, because the cost is distributed over a larger amount of capital. But even at 3 per cent we expect to see deposits in savings banks steadily increase. It is the only way in which small savings of the mass of the people can be made secure, earn something for the owner, and be utilized in business enterprises. While, therefore, lower rates on money will return less to depositors, it will surely stimulate enterprises, and thus in the end aid the very classes who will be the first to feel the effects of the lower rates of interest. It is also a sure indication of the growth in wealth of a community when the abundance of capital seeking investment is so great as to cheapen its cost. The movement toward lower rates of interest is not confined to any community or state. It is general throughout the Union, and is the result of the same causes in each section.

The office of State Inspector of Nurseries and Orchards was a few weeks ago rendered vacant by the election of Inspector U. P. Hedrick to the chair of horticulture in Utah Agricultural College. The new position came to him unexpectedly, and as it is a promising one he felt it his duty to accept. Prof. Hedrick had taken up the work of nursery and orchard inspection in an energetic manner which promised to greatly aid the fruit-growers of the State in preventing the spread of their numerous insect enemies. David R. Trine, who graduated from M. A. C. in 1892, has been given the inspectorship and will continue the good work cut short by Prof. Hedrick's promotion. Mr. Trine has been instruct-

or in botany in Oregon Agricultural College and was for two years assistant horticulturist in the Maine Agricultural College.

LET WELL ENOUGH ALONE.

A correspondent asks what we think of the currency plan of the monetary commission, which has been published in the daily journals of the country. We don't think it worth much attention because it will never materialize into law through the action of Congress. In some respects we think it wise, but in others it is not. Nor do we believe it to be in accordance with the wishes of the people as a whole. The plan is outlined in 39 distinct clauses, and nearly half of them will be opposed by a majority of the people. One part of the plan is the retirement of the greenbacks, and an increase of national bank notes to take their place. The retirement is to be spread over ten years, but 50 millions are to be retired at once. If that proposition is ever submitted to the people it will be defeated so decisively that it will never be heard of again. Any party that places a plank in its platform indorsing such a scheme will be snowed under.

We see no objection to increasing the number of national banks, and allowing them to increase their issues of currency, providing they are held to a strict observance of the law. But we don't want the country depleted of a currency entirely satisfactory to the masses of the people, and have it replaced by another which is more or less objectionable to a majority of them. There is nothing the matter with the currency as it is. Why stir up trouble unnecessarily? Leave the currency alone and let business go ahead without hindrance or fear of trouble from useless intermeddling on the part of Congress. It is wisdom to let well enough alone.

POSTAL SAVINGS BANKS.

C. C. W., of Trufant, Mich., sends the following inquiry:

"Please state through your paper what a postal savings bank is, and what improvement it would be over the present system."

A postal savings bank is a system whereby the various postoffices in the country accept deposits, no matter how small, and turn them over to the government, which pays a low rate of interest on such deposits.

As to their benefits, the first and greatest would be their absolute security. This would be of the greatest advantage in country districts where no savings banks exist. They would do much to put an end to losses of money by fire or robbery, and keep in circulation money now hoarded by owners because they are not within reach of savings banks, or other banks of deposit. The amount so held is shown, by the results of starting such banks in Great Britain and France, to be enormous, and any system which will put this idle money into circulation will certainly be a gain to the country at large. In Great Britain during 35 years 7,000,000 depositors have accumulated over \$550,000,000. On \$480,000,000 of this, deposited on 6,500,000 accounts, interest was paid at the rate of 2½ per cent, and the government cleared \$83,000. France has had a similar experience, having made \$170,000 in handling 2,500,000 accounts, on which was deposited \$143,000,000. This money drew 3 per cent. It is not the purpose of the government to make money, and these facts are of value chiefly because they show that such banks can be conducted without loss.

In large cities, where savings banks of established reputation for soundness and stability, especially in states where they are conducted under state laws which insure the depositors

so far as possible, against loss, the postal savings banks will not be used as much, or prove as much of a boon, as in the rural districts. The private banks will always be able to outbid the government on the rate of interest paid depositors, and thus secure the bulk of the deposits where they are located.

The countries in which the postal savings banks system has been inaugurated find ample investments for the deposits in their own national debts, so that it makes every depositor an investor in the country's debt, and therefore personally interested in the stability of the government. In this country, where a national debt is not regarded as a national blessing, and the policy is to liquidate it as soon as possible, some other method of investment will have to be followed. State and municipal bonds, carefully selected, could be purchased and held by the government as a secure means of investing the deposits in postal savings banks, and this would have two good results: first, it would make such bonds more valuable and sought after; and, second, it would keep them in the country, and the interest paid on them would all go to our own citizens.

There is no doubt but that postal savings banks would also tend to teach communities in which they are located lessons in thrift and economy, and bring the people in closer touch with the government. They will also show the wonderful power of aggregated capital collected from all sections of the country, and put into circulation for the general benefit of the people and the material interests of the country.

MICHIGAN'S IRON MINES.

The commanding position occupied by Michigan as a producer of iron is emphasized by the figures of production for the past year. For the year ending December 31st, 1897, the output of iron ore by the five ranges composing the Lake Superior iron district

was larger by over 2,000,000 tons than in any previous season, reaching the total of 12,500,000 gross tons of 2,240 pounds each. The production of iron near the shores of Lake Superior in the past seven years has been greater than the total output from the first discovery in 1847 to 1890 inclusive. Of the 1897 production, as in previous years, by far the greater portion was transported by water, the total shipments of the season aggregating 12,215,645 tons. About 300,000 tons were consumed by local furnaces. The output in 1896 was 9,934,826 tons, as against 10,429,037 tons in 1895. Of the 1896 shipments 8,026,432 tons were sent to Lake Erie ports, and 1,617,604 tons went to Chicago and Milwaukee, the Illinois Steel Company taking nearly all of the ore sent to Lake Michigan ports. Of the 1897 shipments by water 10,120,906 tons went to Lake Erie ports and 2,094,739 tons were sent to Lake Michigan ports. These figures prove beyond any question the importance of the traffic of the great lakes to this State, and the necessity of preventing any obstruction to its growth and development. Deeper waterways and straighter channels must come when required, if the commerce of this State is to continue its wonderful growth.

The iron business of 1897, while the largest on record, was not marked by large profits or high wages. The mine employees as a rule earned more money than in any other year since 1892 and enjoyed the benefit of steady employment. The close of the year is marked by a general advance in wages throughout all five ranges, the advance averaging about 10 per cent. More men are employed in the mines with the opening of 1898 than ever before at the beginning of a year, and the outlook for a further increase

in wages, probably about the opening of navigation May 1 is anticipated.

Referring to the future of mining in the Lake Superior region, a writer at Ishpeming writes at follows to the Philadelphia Record:

"The recent perfection of a process of ore reduction by Thomas A. Edison, the famous inventor, and the practical demonstration of its mechanical success in large reduction works at Edison, New Jersey, has been in some quarters regarded as highly imitative to the Lake Superior mines. Such is not the case. Very little Lake Superior ore goes east of the Allegheny Mountains, and little of the New Jersey ore can ever come west of the same natural barrier to enter into open competition with the lake ores. While there seems little doubt that the Edison process of ore concentration is mechanically successful, it remains to be demonstrated that it is a commercial success. The Mesaba ores of the steamshovel class can be mined as cheaply as it is possible to lift ore with steamshovels in New Jersey or elsewhere, and the Mesaba ore when mined has the advantage of being all ore, and requiring no process of reduction by which the ore can be separated from the gangue of rock in which it is held. The cost of transportation to Pittsburg is also less per ton from the furthest mine of the Mesaba than from any ore deposit along the Atlantic seaboard."

It might be added, also, that no iron yet found on the continent has equalled that of Lake Superior in several important particulars, and it occupies a unique position among iron manufacturers, who know and appreciate its good qualities. The copper and iron mines of Michigan are among its greatest natural resources, and far more valuable to her people than would be the gold mines of the Klondike or the diamond mines of South Africa.

THE POWER OF A GREAT NAVY.

In spite of the almost universal craze for great navies, sea power, with all respect to Capt. Mahan, has not cut much of a figure in any great war since the Crimea.—Chicago Record.

The Record is very wide of the truth in that statement. Never was the power of a navy shown in a stronger light than in the recent rebellion in the United States. Had the Confederacy been able to break the blockade of its ports, and export products and import munitions of war and supplies for its people at will, how much longer, if ever, would it have taken to suppress the rebellion? Had the Merrimac not been met by the Monitor, and her career of destruction stopped, what would have been the result? It is not a pleasant contingency to contemplate. It would have meant the starvation, and undoubtedly the final capture of the Union army under McClellan. Then look at the havoc done by the few armed cruisers of the Confederacy to the merchant marine of the nation. Our carrying trade has never recovered from it to this day. The Union navy blockaded the ports, captured a number of them, isolated the Confederacy completely, and then her armies pounded out a victory. But it is a foolish man who will forget or ignore the grand part played by the navy in that gigantic struggle. Capt. Mahan is unquestionably right in his statements regarding the power of a strong navy. This power will become stronger as the commerce of the world increases, and the country with the strongest navy will always hold the first place in the community of nations.

5 DROPS is the name of a simple but effective remedy for rheumatism, neuralgia, asthma and kindred ailments. The trade mark is self-explanatory. Five Drops make a dose. Five Drops begins to cure at once. Immediate relief is felt. The manufacturers of Five Drops have thousands of testimonials from reliable people, copies of many of them gladly sent upon application. In order to more effectively advertise its merits the company will for the next thirty days send out 100,000 of their sample bottles of this positive cure for 25 cents a bottle by mail prepaid. Large bottle, 300 doses, \$1 (for thirty days 3 bottles \$2.50). Those suffering should write to the Swanson Rheumatic Cure Co., Chicago, Ill., and take advantage of this generous offer. They are reliable, and promptly fill every order.

DETROIT'S LIVE STOCK TRADE.

Below we give a statement of the business done at the M. C. R. R. Stock Yards in this city during 1897. The receipts and shipments of live stock are given by months, and those from this State are given separately. Our readers can see from the figures just what percentage of the business came from Michigan. It should also be remembered that a good deal of the live stock raised in the southwestern part of the State is marketed in Chicago, and another portion goes direct to Buffalo via the Chicago & Grand Trunk without touching at Detroit. Along Lake Huron, during the season of navigation, a good deal of live stock is shipped by boat and sent to Lake Erie ports. The official figures of receipts and shipments for 1897, as compared with those of 1896, are as follows:

FROM MICHIGAN.					
1897.	C'tle.	C'lv's.	Sh.p.	Hogs.	H'ts.
January ..	2,826	552	12,725	21,365	
February..	2,590	531	16,566	15,955	
March	2,792	734	9,889	18,011	
April	3,904	1,302	5,999	21,461	
May	3,533	1,446	4,018	24,723	
June	2,727	836	2,307	17,186	
July	3,714	917	4,035	16,631	
August ...	3,196	573	4,305	15,325	
September ..	3,095	527	8,300	19,142	
October ..	3,107	735	7,542	25,846	
November ..	2,591	529	5,997	39,523	
December..	2,778	513	5,936	56,827	
Total	36,859	9,200	87,619	291,995	

FROM THE WEST.

1897.	C'tle.	C'lv's.	Sh.p.	Hogs.	H'ts.
January ..	1,213	.....	.....	2,694	.....
February..	898	.....	.....	3,569	.....
March	843	.....	.....	210	162
April	1,957	.....	.....	2,147	249
May	1,351	.....	.....	2,107	83
June	636	.....	.....	284	3,014
July	1,818	.....	.....	619	7,776
August ...	1,837	.....	.....	586	3,042
September ..	1,788	.....	.....	688	2,158
October ..	1,440	.....	.....	.....	6,615
November ..	376	.....	.....	.....	465
December..	173	.....	.....	.....	21
Total	14,420	.....	.....	3,803	32,208
Gd. Total..	51,279	9,200	91,422	324,203	640

SHIPMENTS.

From	C'tle.	C'lv's.	Sh.p.	Hogs.	H'ts.
Michigan ..	10,066	1,405	43,163	49,940	.....
The West. 10,201	.....	.....	428	.....	634

Gd. Total.. 20,267 1,405 43,591 49,940 634 RECEIPTS—1896.

From	C'tle.	C'lv's.	Sh.p.	Hogs.	H'ts.
Michigan .	35,888	12,897	124,218	150,793	.....
The West. 19,524	395	1,574	71,915	.....

Gd. Total.. 54,912 13,294 125,792 223,708 SHIPMENTS.

From	C'tle.	C'lv's.	Sh.p.	Hogs.	H'ts.
Michigan .	7,368	3,946	50,576	20,620	.....
The West. 13,761	395	.....	.....	.....

Gd. Total.. 21,129 4,341 50,576 20,620

For the Michigan Farmer.

THE ASSESSMENT OF PROPERTY.

As the time rolls around when elections are not so far off but what people are beginning to talk about candidates for the various offices, it may not be amiss to say a few words about the assessment of property. In the first place we often read in city papers that what is needed is honest assessors and then everything will be all right. They say the law is all right, but I think that is a mistake. The law should be so amended as to compel a sworn statement from every person who has property. Then the rich man would be used just as the poor man is. It is rather hard to demand of the man of wealth a statement, while at the same time he knows the assessors did not ask it of his neighbor across the way, and by implication he would assume that he was dishonest. The assessor, as a rule, is not a man of great wealth or at least not one of the wealthiest in a township. Very rich men do not want to be bothered with an office of that kind, or else the people don't want them. At any rate the supervisors of a township and the assessors in a city are men of very moderate means. Generally the office is quite an object to him, and he wants to keep his job if he can. The man of wealth usually has influence in proportion to his wealth, so much so that one, two or three men can often control the election in any township, or at least can defeat any man who is obnoxious to them. And this explains why in a great measure rich men do not pay their share of taxes. It is poor encouragement for a supervisor to assess property at its real value or somewhere near it, and to know that if he had let off two or three men of wealth with one-third to one-half of what would have been their just

share, he might have held office for years to come. Of course there are exceptions to the general rule, and once in a while a man will do his duty at any cost, and then calmly take the consequences. But such men are rare. When men of ordinary means will throw an efficient officer overboard because he does not belong to their political party, when they know that officer has done his duty, they ought not to whine if they have to pay the rich man's taxes, or at least a portion of them.

One thing is certain: the officer who is elected by the rich men's money, votes, and influence, will generally be governed by said men, or at least greatly influenced by them to the detriment of the common taxpayers. Many a supervisor in this State has committed political suicide because he dared to do his own thinking, and assess property at something near its just proportion, and the people thought nothing of it, but grumbled because A. B. and C. didn't pay as much taxes as they ought. How can people expect anything else? If we sow weed seed we grow weed seed, and if we dismiss an efficient and faithful servant, and get an inefficient one in his place, we must take the consequences. People are apt to think of party too much, and of the common good too little. In the northern part of the State especially, where the country is sparsely settled, and there is comparatively little to assess, and sometimes one man or firm can control the election of township officers by bringing up something else to attract attention and call the people from their own interests, they will vote, to all intents and purposes, to pay the other fellow's taxes. In another township in this county a certain firm are reported to have told the supervisor that they would buy enough Indians the next spring to defeat him because he had dared to put their property at something near its real value. But in this case, be it said to the credit of the Indians, that after four years that same supervisor is holding his job, and it seems to me that this is about what the struggle between our governor and the farmer Representatives on the one side, and the railroads and the State Senate on the other, amounts to.

Emmet Co., Mich. WM. KILPATRICK.

ENFORCING THE LAW AGAINST COLORED OLEOMARGARINE.

To the Editor of The Michigan Farmer.

The readers of The Farmer may be interested in knowing that after a bitter contest, lasting for three days, the Dairy and Food Department has succeeded in having three dealers in oleomargarine bound over to the Recorder's Court of Detroit, charged with violating the anti-color law. Among other witnesses introduced by the oleomargarine manufacturers appeared one Prof. Burner, of Columbus, who testified to being one of the chemists in the employ of the Ohio dairy and food department. His testimony showed a prejudice and partiality for the oleomargarine manufacturers quite at variance with the chemical authority presented by the prosecution. The fact that at least three of the defendants in Detroit will be compelled to answer before a jury in the Recorder's Court has given us renewed confidence in the outcome.

The next big fight takes place in Grand Rapids on the 6th inst. The cases that come up there have been very carefully prepared and will be forcibly presented in behalf of the people.

Too much cannot be said for the painstaking and capable manner in which the cases have recently been handled by Assistant Prosecuting Attorney Turner in Detroit. Assistant Prosecuting Attorney Corwin in Grand Rapids has spent considerable time in the preparation of the cases, and in becoming familiar with technical testimony. Supporters of the anti-color law may congratulate themselves upon the energy displayed by these two officers.

ELLIOT O. GROSVENOR.

It is gravely announced that Kentucky is suffering from an over-production of whisky, and that if relief does not come soon the bulk of her distilleries and wholesale liquor houses will be forced into bankruptcy. It is hinted that the trouble is under-consumption rather than over-production, but just the same we do not think the present an opportune moment to start a temperance revival in that State. It might be looked upon by the average Kentuckian as an instance of malignant persecution.

For the Michigan Farmer.
SUGAR BEETS, OR WHEAT, BEEF AND PORK.

I found out some years ago that it was better to draw a load five miles than to draw twenty miles. There are some who seem to be in doubt about that question. In the issue of The Farmer of December 25 a writer says: "If our people produce all the sugar we consume we ruin that industry abroad and take from them the power to buy our products. This world is a big family," etc. Now, what puzzles some of us is this: We are sending wheat, beef, pork, and all such things abroad, and hurting the market for the farmer in England, Germany, and France. Then again, if we employ 10,000 men in raising beets, and making sugar, we expect to feed them, and clothe them, and school them (or their children). Now, to do this, and save shipping so much from this country to foreign countries, and so much from foreign countries to this country, might hurt railroads and steamboat companies, but that is all we can figure out. (Never mind about the tariff.) It does not seem any worse to support a trust in the United States than it does in Hawaii, or Germany. It does not seem any worse to support a sugar trust than a railroad or steamboat corporation. I just like to see the men who have got money shell it out putting up six-story buildings and buying machinery. That German with the unpronounceable name is putting \$1,000,000 into a sugar factory in California. Good! I am glad of it. Now, who next? We can not raise beets for sugar, but we can wheat and wool, beef and pork.

Speaking about "wool," our thoughts went back to "Old Genesee." He was a foeman worthy of a man's steel; but his trials and labors are over. We always esteemed him one of the noblest works of God—an honest man.

Ionla County.

WM. P. SMITH.

NEWS SUMMARY.

Michigan.

The work of securing the right of way for the new electric railroad from Lansing to Ann Arbor, via Dexter, is progressing rapidly.

The new law providing for the collection of divorce statistics by the secretary of state has gone into effect and the first returns are being received at Lansing.

The Bronson Portland Cement company, located ten miles west of Coldwater has filed mortgages and chattel mortgages to the amount of \$100,000 in favor of the Euclid Avenue Savings bank, of Cleveland, O.

The State Supreme Court has announced that it grants a rehearing in the celebrated tax title case of the Connecticut Mutual Life Insurance Co. vs. Eugene B. Wood and the Auditor-General. The reason given is that the case was not heard by the full court.

Nelson Holmes, of Grattan township, Kent county, in disposing of his property by will, after caring for his widow and grandson, bequeathed the remainder of his estate to the State of Michigan, upon condition that some public educational or charitable institution be erected thereon. The attorney-general filed a bill in the Kent circuit to obtain a construction of the will, and a decree was entered holding the bequest to the State valid. The State appealed and the Supreme Court has decided that as the State has not complied with the conditions imposed it has no interest in the land.

General.

The Supreme Court of San Francisco, Cal., refused the application of attorneys for Theodore Durrant for a certificate of probable cause, and the convicted man has again been removed to the death cell, to await the hour of his execution, fixed for Jan. 7.

A fearful accident occurred at London, Ont., last Monday night resulting in the death of 25 persons, and the serious injury of more than twice that number. A crowd of about 2,000 people had packed the city hall to listen to speeches by the successful candidates in the city election, which had been held that day. Several beams suddenly gave way and a section of the floor went down, carrying with it a struggling mass of humanity. The loss of life would probably not have been great but for the unfortunate tumbling down of a large iron safe and a coil of wire weighing nearly half a ton, both of which landed squarely on top of those who went down with the floor, completely crushing a large num-

ber. A panic ensued and a large number sustained slight injuries in escaping from the building.

A correspondent of the Epitomist gives the following method of protecting orchard trees against rabbits and field mice during the winter season: "I have a wooden bucket that holds two and one-half gallons; in this I put a lump of lime about the size of a man's double fist or a little larger, and pour in enough hot water to slack it. While it is slackening put in one-half pint of gas tar and a pound of concentrated lye. Keep stirring the mixture to get the gas tar well mixed with the rest, and add more hot water until the bucket is nearly full, then put in earth and keep stirring until it is as thick as you would prepare whitewash. The bucket by this time should be full. Take a whitewash brush or a broom and rub the trees with this mixture late in the fall. A rabbit will never touch a tree rubbed with it, and if there are any borers in the trees it will kill them. The trees should be again rubbed the last of May or first of June; it will keep the borers out; when the spring rains come the trees will be washed off and look green and glossy and will make a fine growth."

When writing advertisers mention Mich. Farmer

Hood's Pills
Should be in every family medicine chest and every traveller's grip. They are invaluable when the stomach is out of order; cure headache, biliousness, and all liver troubles. Mild and efficient. 25 cents.

SPRAYING
with our new
KEROSENE Sprayers
is simple indeed. Kerosene is made, cheaply, easily. Send for photograph of our NEW PEERLESS ORCHARD SPRAYER, with BORDEAUX NOZZLE, the world's best.
THE DEMING CO., SALEM, OHIO.

MUNGER THE NEW RASPBERRY FARM
in "FANOY MARKET."
Money in it. Catalogue free.
200 acres in plants. W. N. SCARFF, New Carlisle, Ohio

A Wonderful Talking Machine.

Perfection has at last surely been reached in talking machines. The latest and most perfect machine has just come out. It is loud and clear and reproduces your own or any voice over and over again; speeches from the most noted statesmen, songs from the world's greatest singers, music from the greatest bands. The price of this wonderful machine is but \$10.00, and it affords a wonderful opportunity for those who wish to give public entertainments; \$10.00 to \$20.00 can be made every evening exhibiting this talking machine, in halls, churches, school houses and other public places. This machine is now controlled by, and catalogue and full particulars can be had from, SEARS, ROEBUCK & CO., Chicago. Just cut this notice out and send to them for a book telling all about it.

FOR RENT, Oakland County farm, 355 acres; fine improvements. Lease from March 1, 1898. EARL D. BABST, 56 Moffat Bldg., Detroit.

VIRGINIA FARMS FOR SALE.
Large and small. Free Catalogue.
R. H. CHAFFIN & CO. (Inc.), Richmond, Va.

EARL D. BABST,
56 Moffat Building, Detroit, Mich.
Attorney-at-Law.

Practice in all courts; Collections made anywhere in U.S.; special attention to law of the farm. Attorney for Lawrence Pub. Co.

500 PARCELS OF MAIL
Guaranteed if you send 10c. to put your name in our great Hustling Agents' Directory, and we will send you a popular book, price 10c., as a present by return mail. UNION BOOK CO., Dillingham, N.C.

FIRE-WEATHER-LIGHTNING PROOF
Black, painted or galvanized metal ROOFING
and siding; (tile, rock, or corrugated)
METAL CEILINGS AND SIDE WALLS.
Write for Catalogue.
Penn Metal Ceiling and Roofing Co. Ltd., Philadelphia.

CHEAP FARMS. Do you want a home?
We will sell you one with a small payment down, the balance on long time, a little each year. Come and see us or write
THE CROSWELL COMPANY
Croswell, Sanilac Co., Mich.

LUMBER
to sell direct to the Farmer or Contractor.

Long Barn Timbers, Barn Siding, Flooring,
Ceiling, Siding, Lath and Shingles.
Write for prices.

C. S. BLISS & CO., Saginaw Mich.

\$19 FOR A NEW GUARANTEED BICYCLE
Cameras, Boxing Gloves, Sporting Goods, Game Tables, etc. Catalogue free. Quotations on any article.
Dept. B, American Supply Co., 218 LaSalle St., Chicago.

CANCER
30 years experience enables me to scientifically treat and effectively cure Cancer and Tumors without the knife.
72-page book sent free. Address Dr. L. H. Gratigny, Norfolk Bldg., 8th and Elm Sts., Cincinnati, Ohio.

HOW to make money with a Magic Lantern or Stereopticon is explained in 250-page catalog describing apparatus & views
free. McALLISTER, Optician, 49 Nassau St., N. Y.

The Household.

CONDUCTED BY MRS. ELLA E. ROCKWOOD.

We should be pleased to have any of our readers who take an interest in household topics send in their views and opinions upon any subject which is under discussion, or which they wish discussed. The invitation is general, and we hope to see it accepted by many. Address all letters to The Household to Mrs. Ella E. Rockwood, Flint, Mich.

DOUBT.

I wonder if God wills
A woman's heart should break,
With love's despair or life's long ills,
For her redemption's sake?

She may have need of these
Afflictions—some, rare good,
Wring sweetness from the bitter lees
By all not understood.

The power that round us thrust
Temptation's piercing thorns,
Knew that the heart most sorely crushed,
The rose of grace adorns.

Perhaps there is no loss,
O sisters, or remove
That will distress us, when the cross
Shall shelter all our love!

And yet, I hear without
Only the west wind wild;
And through the darkness and the doubt
Am crying like a child!
—Agriculturist and Stock Breeder.

HOME CHATS WITH FARMERS' WIVES.

INSTITUTE WORK.

The last two weeks of December were spent by the writer in institute work. One or more farmers' institutes are held in each county of the State, and in connection with all of the regular two-day meetings, there is a women's section. It was as conductor of these sections that I went out with one party of institute workers.

Probably every reader of these lines is familiar with this feature of the work, for during the past two or three years it has been regularly in operation. Wherever introduced it is being received with favor by women, and it would seem that good must result. Women on the farm have little opportunity for getting together to talk over matters which interest them, and now that they have one afternoon of the institute all to themselves they show their appreciation of it. The topics considered are those of especial interest to women, and which are best discussed by themselves. No one attending one of these sessions can fail to be impressed with the great good that may be done in just this way. Let women only get together and hear these topics treated, let them take part in the discussions, let them give as well as receive, for that is what we should do, then they will go home to think over what has been heard, and surely it must be a rarely uninteresting gathering where no good ideas are disseminated. We can all receive some benefit. The amount of good which I received from each one of these meetings is inestimable, and often it was the shy, retiring woman, the woman who only yielded to the call for her opinion of the matter under discussion after considerable hesitation, who had the brightest thought, the best ideas, the most helpful suggestion. In point of intelligence the farmers' wives are not one whit behind their city sisters, and it is sometimes astonishing to hear how some plain little woman can talk. She is well posted, and shows that she has studied the works of the best authors.

* * *

And a word to you, my sister. If your county institute has not yet been held don't fail to attend it. If you can be there but one day by all means select the one on which the women's section is to be held, as it is intended particularly for you. Go not in a spirit of criticism, intending to find fault and pick flaws, but in a spirit of love and kindly interest. Go, willing to give of your experience for the benefit of others, and be not afraid to get up and help along with the discussion. You may not agree with all that is said, and if this is the case, it is your privilege to say so. In the exchange of ideas we are all gainers.

These and similar gatherings of farmers' wives are certainly beneficial. Anything which shall help us to be better wives and mothers, which shall help us to be instrumental in lightening another's burden, of broadening our views of life, of improving our methods of housekeeping surely deserves our enthusiastic support.

The women's section of our farmers' institutes aims to do this, and those who have it in charge will be very grateful for any suggestions as to how it may be made still more helpful.

* * *

But, much as I enjoyed the trip,

much as the kindly greetings from those who came to me with extended hand and smiling face proclaiming, "I feel that I know you already, for I read your Chats every week!"—much as I enjoyed all this, it was with a glad heart that I turned me homeward, for a two-weeks' absence is something unusual in my experience, and the dear home faces did look so good.

And they were glad to have me back again; I could see that. There are no little children, but my big boy and his father who have been the homekeepers in my absence showed unmistakably that they were glad to have me at home again. They allowed me to do little else but rest for the first few days. Truly a change of scenery is beneficial sometimes, to get away from home does us good; but one appreciates home all the more when they return.

NANCY JANE COMES AGAIN.

Friends of the Household, I will come in rather cautiously this time so as not to frighten any one the way I did before. The name "Nancy Jane" does not look so badly in print as it sounds, and Nellie Louise Reed has probably gotten over her utter astonishment and perhaps will not be so upset this time. I think the editor was grateful to me for my letter, because it brought into the circle another one, and it shows that she has a good heart, one that is willing to come, and come quickly to the aid of suffering humanity, especially if there is danger before them. I only gave my opinion upon the subject, and the Household readers are free to give theirs, and some have already done so.

No, no, dear sister, I do not live in the back woods, but out among civilized people. A better farming community cannot be found; better wives and mothers cannot be brought together than right here, and is it not strange that I should have so little common sense? I do not mean to feed a baby pork and beans, pie, cake, pickles, etc. No, indeed and as I said before, there are some cases where nothing but milk is required, but, dear sisters, have you ever had or seen a cross baby, one that can not be quieted, one that may be quiet while it is nursing, but soon up comes the nourishment and baby worries again? "What can all the child? It can't be hungry; just had its dinner," says the mother. It will sleep a short time, wake up crying and worrying. Clothes are all right—surely he must be sick. The mother says, "I cannot go anywhere with my baby, he is so cross." The neighbors say, "That is the worst child I ever saw; it cries all the time."

Dear mothers of this Household, if you have such a baby (and I'll warrant there is another somewhere besides the one who gave her experience a short time ago) do not be afraid to try my advice upon "feeding the baby." Take a piece of light bread (or crackers will do), pour boiling water upon it, sugar and butter it well, mash it soft and feed the baby. I will agree to answer for all harm resulting therefrom.

Again, if any mother has a nursing baby and several older ones to wait on and take care of her sometimes feels that her very life blood is being drawn out with baby's nourishment. She is tired to death all day, and baby's demands give no rest at night. In such a case do not be afraid to prepare some of the food as described above and feed the baby before going to bed. It will relieve you and not harm him in the least. As for treating little pigs and calves and colts as I would the babies, you notice that when any of these are a few weeks old they begin to pick at the hay, and husband's theory is that the sooner they can be brought to eat the better. It makes them grow faster.

But as I said, if your baby is good, if he grows and is satisfied on milk alone that is undoubtedly all that he needs.

I knew one lady whose baby had been cross for three months. She began to feed it oatmeal and milk, and after a short time he was as good as he could be; but she had to carry oatmeal with her when she went away from home, and more than once had to make a fire and cook some in the night, when her allowance ran short. I do not believe there is much use of having a cross baby, but what answers for one child will not do for another. Use judgment in all things. Physicians may say, "Don't feed anything but milk," but they do not always hit the case; there are exceptions to all rules. One of my neighbors, between herself and baby, has been taking seven different kinds of medicines, all prescribed by one physician. Baby's cross, mother's most crazy because of so much

work, but she says, they say, "Don't feed him; it is not good for him."

I would like to know what the editor thinks about this.

NANCY JANE.

(With such conclusive evidence as has been offered in favor of giving babies something to supplement a milk diet, it would seem that to do so is often best. Surely when a child worries and does not thrive it would be well to try feeding it some other food. Crackers are frequently a source of bowel trouble, causing constipation, although they may occasionally be given to children with no ill results. It is quite possible that a nursing mother may not afford sufficient nourishment for her baby—it may be deficient in quality if not in quantity, in which case additional food should certainly be given.—Ed.)

forbid that conscience should accuse any of ingratitude or murmuring on account of the care of their parents.

Let all of us be careful of such examples before our own children; for the fruit of our own doings we will surely reap from them when we ourselves totter on the brink of the grave. And to all of us who have entered the evening of life, that we may never say in the presence of our families nor of Heaven that "Our parents had outlived their usefulness—that they were a burden to us." Never, never! A parent can never live so long as that. No; when they can no longer labor for their children, nor yet care for themselves, they can fall like a precious weight upon our bosoms and call forth by their helplessness all the noble, generous feelings of our hearts.

Howell, Mich.

MRS. MARY S.

FAULTFINDING.

I sometimes wonder if there ever was a time when faultfinding was the exception and not the rule, as it is in this age of the world! No matter where we go we hear someone complaining about hard times, low prices, poor crops, etc. As a rule we find that the ones that have the hardest times are the same persons who do the most talking and complaining about it. Instead of making the most of their time in some useful employment we find them sitting on kegs and boxes in some store or postoffice grumbling at Providence for not giving them bigger crops or higher wages, while perhaps their farms are running down and their buildings and fences going to ruin while they are arguing politics with men as shiftless as themselves. Talk is cheap; if it was worth anything most people would be rich.

There is a family of strong young men in our town that furnishes an excellent example of this. They once had a fine home, free of debt, left them by their father, but they allowed it to run down and get in such a condition that it wouldn't sell. Their land was never properly worked, so accordingly they had poor crops, and to-day they are without a home and what is most disgusting they are always to be found sitting in the store, chewing and smoking and talking about the way the country ought to be run.

So many people lay every bad condition to Providence. Yet how few of that class there are who will own that there is a supreme power. A short time ago I heard a man cursing his hard lot. He said he sometimes doubted there being a God, anyway. He said he had never done much for him, and I couldn't help thinking that if the Lord never did any more for some people than they do for Him how terrible would be their condition. How little any of us deserve as good a lot as we have. Of course hard times come to a great many people who do work and try to serve the Master. We should try to keep in mind that it is His will, and He knows what is best for His children. Probably if we had more of this world's goods we would think little or not at all of the better world to come. The Father understands our natures and will give us what is best for our spiritual needs. So let us remember to sow, and to trust Him for the yield.

And how disagreeable a fault-finding person makes it for those they come in contact with! How weary it makes one to have someone constantly reminding them of the hard times and lack of money! It is more of a habit than anything else with a great many people. If we have got into that habit let us get out as soon as possible for our own good as well as the peace of the community.

L. A.

Air the rooms thoroughly every morning. Open the windows of the sitting room while the family are at breakfast. Bedroom windows should be raised, bedding hung to air and all made sweet and clean early in the day. Closed rooms are apt to have a stuffy smell in winter and need a thorough airing once a day.

Enameline
The Modern STOVE POLISH.
Produces a JET BLACK enamel gloss. Dustless, Odorless, Labor Saving. 5 and 10 cent boxes. Try it on your Cycle Chain.
J. L. PRESCOTT & CO., NEW YORK.

A CLUB FOR FARMERS' WIVES.

In answer to M.'s inquiry I send a little sketch of our club work. If it is of any use to anyone I shall be glad.

Several years ago a few of our farmers' wives formed a club. For the first year or so we studied such books as we owned, different American and English authors, some member writing a short sketch of the life and writings, others reading or reciting selections from his works, quotations from the same and current events. We also studied English history, each taking notes, and had a sort of examination on the same at the end of the season, each offering suggestions on making out the program. We met once a week at the members' houses in turn, from 2 to 4 p. m. No refreshments were served, as it was considered too much work, meeting as often as we did, but occasionally we had what we called an open meeting in the evening, inviting the men of the different families. We then arranged a program that would be interesting to all. Our refreshments at such times were fried cakes and coffee, popcorn and molasses candy or apples.

Later we have had traveling libraries, sometimes miscellaneous, sometimes special. At present the president appoints someone each week to make out the program for the following meeting.

If M. would like any further suggestions from our club and will write to me I will tell her all I can.

I have a very nice mitt pattern; it goes way ahead of any one-piece pattern. It is composed of four pieces. I will give it to anyone who wants it, but would rather my name and address were not given in the paper.

ROXY.

(If anyone wishes to take advantage of Roxy's generous offer of the mitt pattern they may obtain her address by sending a stamped envelope to the Household editor. We like the plan of your club very much.)

KEZIAH KILBOURNE'S EXPERIENCE.

Keziah's youthful companions could attend pleasure parties, lectures, and concerts. But these were not for an orphan; she must instead bend over laundry and molding board, cooking stove and dish pan. Six shillings to one dollar per week was good wages at that time for a girl of fifteen. Her wardrobe could not be elaborate; she must be her own dressmaker, too. She put the hand stitches into a calico dress for herself at thirteen. Two years later, with a moiety of aid in fitting from one of her own age, she remodeled a last year's outgrown pattern, cut and made herself a dress that was sufficiently presentable. Most of the fitting was done alone before the mirror. Not that she had no other dresses made between, however. Kind friends aided somewhat during these years. "Kizzy" had been dutifully instructed that "it is a disgraceful sin for a woman to sit down with folded hands." Candles were dear and few. The little girl of twelve must have her "catch-up" work; to Keziah it was a necessity. Only by severe industry could she provide her hosiery. Knitting at dusk, "between sunset and candle light," had been enjoined. Sometimes she knit with open book before her on the table. It was the practice for industrious ladies, who wished to cultivate intelligence, to do so. Just why our dear grave grandparents forgot to impose the equivalent upon persons of the masculine persuasion, this deponent saith not.

There was no embroidery or fancy work for "Kizzy." Mending, making, knitting, darning, were the order of exercises for her spare moments. In these she soon acquired commendable proficiency. "A handsome darn is an ornament" was duly inculcated. Why not? Above all she mourned the lack of educational advantages. Somehow she managed a few terms at "the academy." Cousin Celia lent some books, and gave stationery, which cost nothing to the giver, whose wealthy father never missed it from his pile. But it was a help to the struggling orphan.

And thus it happened that she at length added to her purse a trifle from the advanced wages of a country schoolma'am. One dollar to twelve shillings per week, "and board round," was good wages for such in Michigan fifty years ago. Far more pleasant was the task to "teach the young idea how to shoot," than

to constantly maintain agreeable intercourse with a whole "deestruck" of gossips, boarding a few days here or a week somewhere else. A close mouth and a soft answer were constant requisites. Spite of all there might be friction. So, when Kendrick Kedzie, plain and unpolished, but quiet, industrious, Christian and genial, asked her to preside at his hearth and in his heart, it is no wonder that she accepted the proffered position.

"Respect is akin to love," thought Keziah, "and love is a plant that can be made to grow by cultivation. No effort on my part shall be lacking. Life's a journey up hill and down dale. Changes and trials are the lot of humanity. God help me to do my part, and bless our union. As I cannot expect all desirable qualities done up in one bundle, I will take the most essential good qualities in a plain envelope." And thus she launched her barque upon the matrimonial sea, where so many go down in sorrow.

Was she wise? It might not have been for some. Forty years later Kendrick, bald and gray, said often to his wife: "My affection has grown with the years. Only for one thing would I wish to live again my life, that I might know better on the start how to care for you."

It had been "a long pull, a strong pull, and a pull both together." People deemed their life a success. It was an oft told tale; a life of care and toil, and of cheerful economy.

Should this not prove too long and dull to find a place in The Household, perhaps the sisters may hear more of Keziah's experience.

ARUAL E. S.

FOR THE LITTLE ONES.

I have never thought it worth while to write anything about the picture scrap books I have been in the habit of making for small children, until quite recently. Within a short time I have heard two mothers say they had never heard of them, and if they have not, perhaps the books may also be unknown to some mothers who read The Farmer.

I make the books of bright colored cambric, silesia, turkey red calico, or even partly worn white muslin when nothing else is available. The size of the book is made to compare somewhat with the size of the pictures to be used. I stitch it through the back on the sewing machine to hold it firmly, and clip the edges of each leaf with the scissors, forming little points or notches, and the book is ready for the pictures.

In selecting the pictures I take those that I think will interest and please a child, using not only bright colored pictures but wood cuts that represent people, children, horses, cows, or any domestic animal. Most children like a picture from which they can produce a story. Some bright scenery or a page from an illustrated flower catalogue makes an attractive outside page. The name of the child cut from some advertising bill in large letters is nice for the front.

After pasting the back of the pictures and placing them, I iron them gently with a warm (not hot) iron before putting a picture on the opposite side of the leaf. This prevents the page from curling or wrinkling when dry. After putting pictures on the opposite side of the leaf and ironing I turn back the leaf and iron the first side again, as the paste will dampen through from the other side and leave it wrinkled. If the picture is not large enough I surround it with smaller ones so that it is well covered with them. An elder sister may prepare such a book for the little brother or sister, and thus relieve mother.

I have just finished helping my little seven-year-old grandson to make a book for his baby sister not yet two years old. He spread the paste and I placed and ironed the pictures. The book is his present to his sister and he can hardly wait for Christmas to come to see her pleasure when she receives it. Such books will last a long time, even with hard usage, and when the child grows weary of them they can be laid aside for a while and will be as good as new when brought out again.

MARY A. SIMPSON.

Some unknown friend at Eau Claire remembered the Household editor at Christmas time with a lovely gift, but as no name accompanied it other acknowledgement than this is rendered impossible.

The GENUINE "BROWN'S BRONCHIAL TROCHES" are sold only in boxes. They are wonderfully effective for Coughs and Throat Troubles.

MINCE PIES.

As I was putting this and that into my pies and stirring and tasting, I was thinking how young housekeepers trying to make pies by printed recipes might be troubled because they lacked some of the material named, and not knowing what was essential, worry more than need be over the results. So I tumbled up my gray hair, put on my spectacles and sat down to have a talk.

Meat is really essential, although a good imitation mince pie can be made by stirring one raw egg into dried apple sauce, and adding spices and butter. For the meat we usually buy a neck of beef because it is lean, cheap and can be cooked tender, if it takes two days. But any lean meat can be used and I doubt if any person could tell when the pie is baked if it was beef, mutton, pork chicken, or venison. When the meat is cooked enough to fall to pieces, while it is still hot, pick it over carefully, saving only the lean, and perhaps a little clear, tender fat. It will cook better after it is cold and cannot be made too fine.

Now, we must have some fruit—twice as much as we have of meat. Our first choice is some apples, chopped, but canned apple sauce or dried apples stewed do very well, and an old lady who knew pioneer life when it was solid prose, told me that she had made good mince pies with pumpkin. Another lady whose pies are always praised said to me yesterday, "All sauce has a place in mince pies. Any little mess of canned fruit that is left, and especially the spiced vinegar from which sweet pickles have been taken. I am always very careful to save that for my pies."

Now, we must add something sour. Boiled cider is considered almost necessary by some, but canned cherries or grapes are good, and when none of these are at hand, vinegar will do. I know, for I have seen it tried. Next, this acid must be sweetened, part molasses and part sugar, I am told, but if I had enough of either, I should not wait to send ten miles for the other before I baked my pies.

About spices: Put in some of all kinds you have, and send for more if convenient. I knew a dear old lady who, when spices were scarce, put in pepper, and her pies did not need to beg to be eaten, either.

Add enough of the stock you cooked the meat in to make them moist and some suet or butter. Raisins are almost essential, but cherries dried in sugar will go far to supply their lack. The mince pie that is sweet, moist and full of raisins is never found fault with in this home. Read and consider every recipe you see, but use such material as you have, and your own judgment, when baking day comes.

Lenawee Co. BESSIE BARTON.

MORE EVIDENCE FOR NANCY JANE.

BESSIE BARTON.

Legal Department.

CONDUCTED BY EARL D. BABST,
56 Moffat Building, Detroit.

Lease for Certain Term Must be in Writing.—Subscriber, Benzonia, Mich.—A lease for a term longer than one year must be in writing to be binding.

Toll For Grinding Grain.—J. S. East Tawas, Mich.—The statute governing grain tolls was published in these columns December 25. There is no law governing cash charges by millers for grinding grain.

Subscriber, Macomb Co., Mich.—To answer your question we will require further information. By what instrument or in what way did the farm become charged with the support of B? Was it by will or otherwise?

Necessary Steps to Bind Estate on Lease.—S. E., Benzie County, Mich.—In order to continue liability of estate on a lease to which deceased was a party, it is necessary to file a contingent claim with commissioners of such estate and prove the amount payable for the unexpired term.

Damages for Destruction of Sheep.—T. K. G., Almena, Mich.—1. We do not understand your fence question. Please send a diagram, giving dimensions, etc. 2. The law in regard to sheep-killing dogs and damages for sheep killed was given in answer to "H. D. K." in our issue of December 18.

Indorser Under Proper Notice of Dishonor is Liable for Six Years on the Note.—Reader, Gregory, Mich.—A gives a note to B, and C signs the note on the back as security. How long may C be held if the note is not paid when due? When will C have to be notified of the non-payment of the note?—To hold an indorser, notice of dishonor must be given on the day of dishonor, or on the first following secular day. If the parties live apart, it is sufficient if the notice of dishonor is duly mailed within the prescribed time. But the indorser can not be held unless such notice is given.

J. B. G., North Star, Mich.—The above answer will fit the facts as stated in your question.

F. E. T., Lapeer, Mich.—The above also answers your question concerning indorser's liability.

Law of Inheritance—Method of Ascertaining Who Are "Next of Kin."—E. S. D., Grass Lake, Mich.—Mrs. A owns a farm. She is a widow. B is her son and unmarried. Mrs. A. dies and the farm goes to B. If B should die without wife or children who would inherit the property, his nearest relative being his mother's sister and his next nearest, her son? He has no relatives on his father's side nearer than second or third cousins.—Where one has no nearer relatives than in the case mentioned the Michigan statutes provide that the estate shall go to the next of kin in equal degrees according to the Civil Law rule. The Civil Law rule is to begin with the intestate and ascend from him to a common ancestor, and descend from that ancestor to the heir, reckoning a degree each generation as well in the ascending as descending lines. Therefore, the mother's sister would inherit B's estate, being kin of the third degree, while second cousins on the father's side would be kindred of the sixth degree.

Recovery of Stolen Property—No Title in.—F. W., Augusta, Mich.—A has a horse stolen and finds him in B's barn. Can A take the horse or has he got to replevin him? Must A reimburse B for what he gave for the horse?—A may make a complaint under oath to any magistrate authorized to issue warrants in criminal cases, averring that the horse has been stolen from him and he believes that it is in B's barn, and if the magistrate is satisfied that there is reasonable ground for such belief he will issue a warrant to search for such property. Such a warrant is issued to the sheriff or any constable of the county, commanding him to search the described premises in the daytime and bring the described property, if found, before the magistrate. The property will then be kept if it is necessary to be used in evidence on any trial and, as soon as may be afterwards, returned to the owner. A would not have to make restitution to B of money or goods he may have parted with in exchange for the horse, for no one can gain any title in stolen goods as against the owner. B would have to stand the loss unless he could recover from whoever sold him the horse.

The Markets.

WHEAT.

The week closes with values close to the 90 cent range, as the result of the close of the speculative deal in Chicago and the holidays. We note, however, that there is a good demand for cash wheat, and that Mr. Leiter does not appear to think he will have much trouble in getting rid of his 8,000,000 bushels, accumulated during the struggle. Europe and Great Britain are free buyers whenever prices decline, and we look for an advance within a few days as the result of improved prospects.

The following table exhibits the daily closing sales of spot wheat in this market from December 15 to January 6, inclusive:

	No. 1	No. 2	No. 3
White.	Red.	Red.	White.
Dec. 15.....	91½	92%	88%
" 16.....	92	93	88
" 17.....	91	92½	88
" 18.....	92	93	88
" 19.....	93	93½	89
" 20.....	92½	93½	89
" 21.....	92½	93½	89
" 22.....	92	92½	88
" 23.....	92½	93	88
" 24.....	92½	93	88½
" 25.....	...	...	...
" 26.....	92½	92½	88
" 27.....	93	93	88½
" 28.....	91½	91½	87
" 29.....	91	91	86½
" 30.....	91½	91½	87
" 31.....	91½	91½	87
Jan. 1.....	...	...	...
" 2.....	91	91	86½
" 3.....	90½	90½	86½
" 4.....	91	90	86
" 5.....	90½	90½	86
" 6.....	90½	90½	86

The following is a record of the closing prices on the various deals in futures each day during the week:

	Jan.	May.
Friday.....	91½	92%
Saturday.....	...	...
Monday.....	91	91½
Tuesday.....	90½	91½
Wednesday.....	90	91
Thursday.....	90½	91½

The visible supply of wheat on Saturday last in the United States and Canada was 38,816,000 bu, as compared with 36,616,000 bu the previous week, and 54,651,000 bu at the corresponding date last year. The increase for the week was 2,200,000 bu.

The Chicago bulls who took part in the December deal, are credited with holding 3,000,000 bushels of wheat of the finest quality.

The Minneapolis Market Record says: "Perhaps there is no other country in Europe that has further neglected the matter of stocking up in wheat and flour than the United Kingdom. It is calculated that more than 175,000,000 bu of foreign wheat will be required to carry them through the year, and of this amount they have supplied themselves with little more than 50,000,000 bu, leaving the great bulk of their wants unprovided for. The continent, on the other hand, has done very much better and will not have to import so large a proportion of the whole during the latter part of the season."

Broomhall, the English grain statistician, says: "British wheat is now in much smaller supply, and it is likely that the farmer may be found to be a harder man to deal with during the remainder of the season than he has been since harvest. The fact is that he has netted in the first twenty weeks of the season considerably over five million sterling, or almost as much as he managed to secure for the whole of each of his preceding wheat crops. The agricultural organs are gradually unfolding before him the criticalness of the situation, and the relative scarcity of wheat this season is being felt in upon him."

Judging from the data now before us we are inclined to think that the United Kingdom stocks and quantity on passage have already reached their culminating points. There may be an occasional increase of one or the other, but as a general rule the tendency now will be for these two items of supply to decrease. The United Kingdom stock to-day is only in the neighborhood of 1,500,000 qrs, and we believe it is certain to decrease during the first three months of the new year, and indeed to dwindle away almost to nothing before the end of next July.—Corn Trade News.

DAIRY PRODUCTS.

BUTTER.

The butter market holds about steady, with supplies of dairy in excess of the demands. Prospects favor present values continuing for some time, without receipts showing a large advance. Quotations in this market are as follows: Creamery, 2½@2c; fancy dairy, 15@16c; fair to good dairy, 12@14c; low grades, 9@10c per lb. At Chicago the market is steady on all fancy grades, but shows some weakness on ordinary dairy stock, which is in large supply. Values, however, show little change since a week ago. Quotations in this market on Thursday were as follows: Creamery, extras, 2½c; firsts, 18@19c; seconds, 14@17c. Dairies, extras, 18c; firsts, 15@17c; seconds, 12@13c. Packing stock, fresh, 12c; roll, 12@14c. The New York market is in much the same condition as a week ago. The trade has been characterized by the usual holiday dullness, but desirable stock is held with considerable firmness owing to light receipts. This is especially so with fancy creamery, which is in light supply. Summer made stock is weak and irregular, and if stocks were larger there would probably be a drop in prices. Quotations on Thursday were as follows: Creamery, Western, extras, per lb, 22c; do firsts, 20@21c; do thirds to seconds, 15@18c; do June make, extras, 20@21c; do seconds to firsts, 16@19c; State dairy half-firkin tubs, fall ends, fancy, 19@20c; do Welsh tubs, fancy, 19@19½c; do thirds to seconds, 13@16c; State dairy firkins, fancy, 18@19c; do fair to choice, 15@17½c; imitation creamery, fancy, 18c; do seconds to firsts, 13½@16c; factory, fresh, extras, 15½@16c; do firsts, 14½@15c; do seconds, 13½@14c; do

lower grades, 12@13c; do June make, extras, 14½@15c; do thirds to firsts, 12@14c; rolls, fresh, fancy, 15½@16c; do poor to choice, 12@15c.

At Elgin on Tuesday last sales of creamery were generally made at 2½c per lb, with a steady market.

CHEESE.

No change has taken place in this market since the decline reported a week ago. Quotations range at 10@10½c for full cream State. The stocks of Michigan on hand are said to be very light, but eastern is in large supply. At Chicago cheese is reported to be very dull, with the demand from all sources very limited.

Quotations in that market on Thursday were as follows: Young Americas, 7½@8½c; twins, 7½@8c; cheddars, 7½@8½c; Swiss, 9½@10½c; limburger, 7@10½c; brick, 8@10½c.

The New York market shows more activity and a stronger tone than for some time. The Tribune says, in its report of the market: "The current receipts have been quite moderate the last week, and with continued interest on the part of nearly all exporters and favorable advices from the other side, with cable up 6d, the market has developed a little firmer tone. Most of the business with exporters has been in October cheese on the basis of 8½@8¾c, though some specially fine lots showing September quality have brought 8½c; at the latter figure, however, export buyers generally insist on September cheese, but toward the close find difficulty in securing any fancy quality at that figure, though we do not hear of business any higher, except in a small way to the home trade. Small size full cream has been only moderately active, home trade buyers not taking hold very freely as yet, but holders firm and confident in their views, with many refusing to sell at present prices." Quotations in that market on Thursday were as follows: State, full cream, large, fancy, September, 8½@8¾c; do fair to good, 7½@8c; do common, 6½@7c; do colored or white, small, fancy, September, 9@9½c; do choice October, 8½@8¾c; do common to good, 7½@8c; do large, 6@6½c; part skims, small, choice, 6c; do large, 5½c; do good to prime, 4½@5½c; do common to fair, 3½@4c; full skims, 2½c.

At Liverpool on Thursday the finest white and colored American cheese was quoted at 4s per cwt of 112 lbs, an advance of 6d per cwt over the price quoted one week ago.

DETROIT PRODUCE MARKET.

Detroit, January 6, 1898.

FLOUR.—Quotations on jobbers' lots in barrels are as follows:

Straights	\$4.75
Clear	4.50
Patent Michigan	5.25
Low Grade	3.75
Rye	3.25
Buckwheat	3.75
Granulated Corn Meal	1.75

CORN.—The visible supply of this grain on Saturday in the United States and Canada was 38,421,000 bu, as compared with 38,150,000 bu the previous week, and 19,852,000 bu at the corresponding date in 1897. Quotations on this market are as follows: No. 2, 30c; No. 3, 29½c; No. 2 yellow, 30c; No. 3 yellow, 29½c per bu.

OATS.—The visible supply of this grain in the United States and Canada on Saturday last was 12,337,000 bu, as compared with 38,150,000 bu the previous week, and 14,089,000 bu at the corresponding date in 1897. Quotations are as follows: No. 2 white, 25c; No. 3 white, 24½c; some sample cars sold at 23½c, and rejected at 23½c per bu.

RYE.—The visible supply of this grain in the United States and Canada on Saturday last was 4,055,000 bu, as compared with 3,710,000 bu the previous week, and 3,044,000 bu at the corresponding date in 1896. Market closed at 42½c for No. 2.

FEED.—Jobbing quotations on carload lots are as follows: Bran and coarse middlings, \$12; fine middlings, \$14; cracked corn, \$13; coarse cornmeal, \$12; corn and oat chop, \$11 per ton.

BARLEY.—Quoted at 75@80c per cwt.

TIMOTHY SEED.—Selling at \$1.25 per bushel.

CLOVER SEED.—Prime spot, \$3.20; March delivery, \$3.27½; No. 2, \$2.75@3.00; a.s.ike, \$3.75@4.50 per bu.

BUTTER.—Quotations are as follows: fair to good, 12@14c; low grades, 9@10c.

POULTRY.—Quoted as follows: Dressed chickens, 6@6½c; dressed geese, 7@8c per lb; dressed turkeys, 10c; dressed ducks, 7@8c per lb; live, about 12@12c lower.

EGGS.—Fresh receipts, 19@20c per doz; storage, 14@15c.

DRIED FRUITS.—Evaporated apples, 8½@9c; evaporated peaches, 10@12c; dried apples, 5½@6c per lb.

APPLES.—Fair grades, \$2@3.00; fancy fruit, \$3.75@4.00 per bbl.

HONEY.—Quoted at 10@13c per lb for ordinary to best.

CRANBERRIES.—Selling at \$8 per bbl for Cape Cod.

BEANS.—Market steady at a range of 90@95c per bu in car lots.

POTATOES.—Good Michigan stock selling at 56@59c per bu in car load lots; in small lots 60@65c is paid. Market firm. At Cleveland fancy white varieties are quoted at 65@70c per bu; good to choice, 60@65c; car lots, 52@57c per bu.

ONIONS.—Michigan grown, 70c per bu. Market firm at the advance.

RUTABAGAS.—Quoted at 20@25c per bu.

CABBAGES.—Quoted at \$3.50@4.00 per bu.

DRESSED HOGS.—\$3.75@4.00 per 100 lbs for heavy and 25@30c more for light butchers' stock.

TALLOW.—Quoted at 3½@3½c per lb.

GAME.—Jack snipe, \$1.50 per doz; gold plover, \$1.50 per doz; ducks, per pair, canvasbacks, \$1.25@1.50; mallards, 65@75c; redheads, 65@75c; bluebills, 30@35c; widgeon and pintails, 25c; wild geese, 50c each; rabbits, 65@75c per doz; fox squirrels, 75c per doz; bear, 12½c per lb for carcases.

PROVISIONS.—Quotations are as follows:

Mess pork, \$3.75 per lb; short cut meat, \$3.75; short clear, \$2.25; compound lard, 4½c; family lard, 4½c; kettle lard, 5½c; smoked hams, 8@8½c; bacon, 8½@8¾c; shoulders, 5½c; picnic hams, 5½c; extract meat beef, \$8.75; plate beef, \$9.25.

HIDES.—Market firm. Latest quotations are as follows: No green, 7½c; No 1 cured, 9c; No 2 green, 6c; No 2 cured, 8½c; No 1 cured calf, 10½@11c; No 2 cured calf, 9@9½c; No 1 green calf, 9c; No 2 green calf, 7½c per lb; sheepskins, as to wool, 75c@82c; shearings, 20@25c.

COFFEE.—Revised quotations are as follows: Roasted Rio, ordinary 9c, fair 11c; Santos, good 14c, choice 18c; Marcalbo, 20@25c; Java, 26@30c; Mocha, 23@23c.

OILS.—Linseed oils are higher, and we also note a slight advance in turpentine. No other changes. Quotations are as follows:

Raw linseed, 4½c; boiled linseed, 4½c per gal, less 1c for cash in ten days; extra lard oil, 40c; 1½@1½l oil, 30c; water white kerosene, 8½c; fancy grade, 11½c; deodorized stove gasoline, 7½c; turpentine, 33½c per gal in bbl lots; in less quantities, 45@47c per gal.

HARDWARE.—Latest quotations are as follows: Wire nails, \$1.70; steel cut nails, \$1.65 per cwt, new card; axes, single bit, bronze, 5½c; double bit, bronze, \$3.50; single bit, solid steel, \$6; double bit, solid steel, \$9.50 per doz; bar iron, \$1.40; carriage bolts, 75 per cent off list; tire bolts, 70 and 10 per cent off list; painted barbed wire, \$1.75; galvanized do, \$2.05 per cwt; single and double strength glass, 60 and 5 per cent off list; sheet iron, No 24, \$2.50 per cwt; galvanized, 75 and 10 per cent off list; No 1 annealed wire, \$1.55.

BALED HAY AND STRAW MARKET.

Below we give the latest quotations on b

H H Howe sold same 4 mixed butchers av 915 at \$3.70.
Ackley sold Sullivan 25 mixed av 962 at \$3.62%.
Hosley sold Sullivan 14 steers av 1,040 at \$4.05 and a fat heifer weighing 1,020 at \$4.
Clark & B sold Mich Beef Co 3 mixed butchers av 976 at \$3.40 and 6 steers av 783 at \$3.75.
Coon sold Fitzpatrick 2 cows av 1,155 at \$3.15.

Adams sold same 3 cows av 953 at \$3.
Sprague sold Caplis & Co 4 mixed butchers av 922 at \$3 and a heifer weighing 740 at \$3.85; a bull to Marx weighing 860 at \$3.10.

Roe & Holmes sold Robinson 5 mixed butchers av 756 at \$3, a cow weighing 950 at \$2.50, 1 do weighing 1,200 at \$3.50, 3 steers and heifers av 745 at \$3.85, 18 do av 925 at \$3.75, 5 mixed butchers av 1,096 at \$3, 4 do av 1,037 at \$3.25 and 2 steers av 940 at \$4; 2 bulls to Mich Beef Co av 1,090 at \$3, 15 steers and heifers av 1,152 at \$4.

SHEEP AND LAMBS.

Receipts Thursday, 1,240; one week ago, 998. There is no change to note in quality. Market fairly active at prices 20 to 25c below last Friday's closing. Range for lambs, \$5.20 to \$5.40; light to good, \$4.50 to \$5.15; good mixed lots, \$4.50 to \$4.75; fair to good mixed butchers, \$3.40 to \$4.40; culs and common, \$2.75 to \$3.35.

Spicer & M sold Sullivan 22 mixed av 75 at \$4.25 and 34 fat butchers to Hammond, S & Co av 116 at \$4.20.

Barber sold Monaghan 17 lambs av 60 at \$5.

Sharp sold Young 13 lambs av 76 at \$5.25 and 15 fat butchers av 90 at \$4.25.

Sweet sold Mich Beef Co 122 mixed av 81 at \$3.60.

Dennis sold Monaghan 37 mixed av 98 at \$4.10.

Joyce sold Mich Beef Co 110 lambs av 83 at \$3.35 and 12 sheep av 129 at \$4.

Clark & B sold Fitzpatrick 33 mixed av 90 at \$4.50.

Bartholomew sold Young 22 lambs av 65 at \$5.40.

Johnston sold Hammond, S & Co 25 lambs av 74 at \$5.40.

Burden sold Monaghan 13 mixed av 93 at \$4.20.

Bandfield sold Sullivan Beef Co 20 (most lambs) av 73 at \$4.75.

Aldrich & H sold Fitzpatrick 63 lambs av 74 at \$5.40.

Thorburn sold Hiser 34 common butchers av 67 at \$3.25.

HOGS.

Receipts Thursday, 4,760, as compared with 5,130 one week ago. Of fair average mixed quality. Market active and 10 to 12c higher than prices paid last Friday. Range, \$3.45 to \$3.55. One bunch of choice 166-lb pigs brought \$3.60; bulk at \$3.50 to \$3.55; stags, 1/2 off; roughs, \$2.85 to \$3.15; pigs, \$3.45 to \$3.60. All sold, closing firm.

Johnson sold Sullivan 95 av 169 at \$3.50.

Roe & Holmes sold same 28 av 156, 58 av 147, 45 av 157 and 70 av 134 at \$3.55.

Campbell sold same 11 av 215 at \$3.50.

John sold same 106 av 183 and 30 av 292 at \$3.50.

Mead sold same 91 av 159 at \$3.50.

Mayer sold same 85 at 201 at \$3.50.

White sold same 42 av 153 at \$3.50.

Thompson sold same 29 av 170 at \$3.50.

Bartholomew sold same 49 av 125 at \$3.50.

Aldrich & H sold same 46 av 115 at \$3.50.

Kalahan sold same 63 av 161 at \$3.50.

Spicer sold same 16 av 225 at \$3.50.

Reason sold same 47 av 131 at \$3.50.

Clark & B sold same 43 av 190 at \$3.55.

Joe McMullen sold same 146 av 167 at \$3.55.

Baker sold same 77 av 171 at \$3.52%.

VanBuskirk & L sold Sullivan 163 av 167, and 34 av 192 at \$3.55.

O'Connor sold same 68 av 174 at \$3.55.

Weitzel sold same 79 av 164 at \$3.55.

Cushman sold Hammond, S & Co 64 av 208 at \$3.50.

Weitzel sold same 50 av 233 at \$3.50.

Belheimer sold same 35 av 228 at \$3.50.

Patrick & Pine sold same 113 av 217, and 61 av 231 at \$3.55.

Oversmith sold same 66 av 209, and 57 av 227 at \$3.50.

Haley sold same 38 av 214 at \$3.50.

Baker sold same 41 av 164 at \$3.50.

Sharp sold same 175 av 205, and 21 av 103 at \$3.50.

Oversmith sold same 127 av 183, and 36 av 180 at \$3.50.

Messer sold same 151 av 161 at \$3.50.

Bandfield sold Parker, Webb & Co 77 av 228, and 120 av 192 at \$3.55.

Spicer & M sold same 57 av 189, and 40 av 191 at \$3.55.

Roe & Holmes sold same 69 av 202, 54 av 22, 39 av 213, and 64 av 179 at \$3.55.

Watson sold same 21 av 212 at \$3.45.

Sprague sold Farnum 146 av 167 at \$3.60.

Bergen sold same 45 av 185 at \$3.55.

Friday, January 7, 1898.

CATTLE.

Receipts, Friday, 278; one week ago, 179. Of about the same average quality. Market fairly active and unchanged for handy butchers; old cows and best grades of butchers dull and weak; \$4.60 was top price to-day, for 6 good steers av 1,196 lbs, balance as noted. Veal calves and milch cows steady.

Bandfield sold Sullivan 8 mixed stockers av 630 at \$3.25, 12 feeders av 876 at \$3.75, and 5 do av 788 at \$3.75.

Richmond sold Black 2 fat cows av 1,035 at \$3.60, a heifer weighing 930 at \$3.75, and 1 do weighing 630 at \$3.50.

Judson sold Sullivan 17 steers and heifers av 861 at \$3.85, 4 steers av 820 at \$3.60, and a cow weighing 730 at \$2.50.

F W Horner sold Mich Beef Co 6 good steers av 1,196 at \$4.60, 1 weighing 1,300 at \$4.25, a bull weighing 1,930 at \$3.50, and 2 cows av 1,016 at \$2.40.

Roberts & Spencer sold same 3 common butter cows av 956 at \$2.25, and 5 mixed butchers av 1,008 at \$3.50.

Armspoker sold Caplis & Co 5 mixed av .035 at \$2.85, and 2 fat cows to Black at \$2.60 at \$3.50.

Davies sold Kammen 12 mixed butchers av 687 at \$3.32%.

Roe & Holmes sold Black 3 cows av 1,043 at \$3.40, and 4 do av 1,100 at \$3.20.

Carman sold Regan 9 mixed butchers av 615 at \$3.30, and 2 cows av 900 at \$3.10.

Spicer & M sold Mich Beef Co 4 mixed butchers av 802 at \$3.15.

Nixon & McM sold Caplis & Co 3 steers av 893 at \$4.00, a good sausage bull to ack weighing 1,600 at \$3.25, 2 cows av 40 at \$3.50, 1 do weighing 850 at \$2.40, and steers av 787 at \$3.85.

Pinkney sold Mich Beef Co 4 mixed butchers av 712 at \$2.70.
Simmons sold Sullivan 2 oxen av 1,760 at \$3.30.

Weeks sold Bussell 4 steers av 1,125 at \$4.25 and a bull weighing 1,020 at \$3.25, also a heifer to McIntyre weighing 720 at \$3.70.

Lovre sold Caplis & Co 2 cows av 1,025 at \$3.25.

Lamoreaux sold Black 2 cows av 1,125 at \$2.75 and 4 steers to Fitzpatrick av 1,092 at \$3.95.

Fox & Bishop sold Regan 3 bulls av 576 at \$3 and 7 cows to Black at 1,000 at \$3.25.

Haley Bros sold Fitzpatrick 2 cows av 950 at \$3.25, 9 mixed butchers av 787 at \$3.65 and 2 cows av 1,035 at \$3.

Roe & Holmes sold Kammen 8 mixed butchers av 635 at \$3.50 and 3 do av 520 at \$2.75, 4 mixed butchers to Mich Beef Co av 732 at \$3.40, 3 do av 810 at \$3.75, a cow weighing 1,020 at \$2.75, a canner weighing 990 at \$1.50, a bull weighing 1,580 at \$3.25 and 2 do av 860 at \$3; also 3 mixed butchers to Marx av 633 at \$3.60.

SHEEP AND LAMBS.

Receipts Friday, 711; one week ago, 661. Market quiet and about steady, with above quotations, \$5.50 was top price for lambs to-day, balance as noted:

F W Horner sold Mich Beef Co 55 lambs av 75 at \$3.55 and 64 mixed av 110 at \$3.85.

Patton sold same 78 lambs av 70 at \$5.40 and 28 fat butchers av 100 at \$4.

Underwood sold Robb 54 lambs av 77 at \$5.50.

Rook sold Hammond, S & Co 23 lambs av 73 at \$5.35.

D. B. Sutton sold Mich Beef Co 91 lambs av 75 at \$5.40 and 20 sheep av 89 at \$4.35.

Ramsey sold same 24 lambs av 58 at \$4.40.

Stoil sold same 12 mixed av 90 at \$3.50.

Judson sold same 12 lambs av 71 at \$5.25 and 3 cows av 83 at \$3.

McMullen sold same 73 mixed av 97 at \$3.85.

HOGS.

Receipts Friday, 4,332, as compared with 4,235 one week ago. There is no change to note in quality. Market active and strong to 2c higher than above quotations, or 12c to 15c higher than last week.

Hausler sold Hammond, S & Co 88 av 219 and 70 av 201 at \$3.57%.

Roe & Holmes sold same 38 av 249 and 33 av 211 at \$3.57%.

Brown sold same 84 av 175 at \$3.57%.

Bullen & H sold same 88 av 189 at \$3.50.

Parsons & H sold same 106 av 223 at \$3.57%.

Patton sold same 50 av 245 at \$3.55.

Roberts & S sold same 93 av 190 at \$3.57%.

Brown sold same 78 av 172 at \$3.57%.

Armspoker sold same 39 av 190 at \$3.55.

Stabler sold same 69 av 219 at \$3.57%.

Nixon sold same 127 av 216 at \$3.55.

Roe & Holmes sold same 35 av 242 and 43 av 240 at \$3.57%.

Judson sold same 90 av 193 at \$3.55.

Devine sold Sullivan 94 av 158 at \$3.52%.

Robb sold same 31 av 183 at \$3.55.

Descher sold same 93 av 112 at \$3.55.

Roe & Holmes sold same 24 av 115 and 79 av 118 at \$3.55.

Spicer & M sold same 15 av 129 at \$3.52%.

Haley Bros sold same 144 av 141 at \$3.50.

Fox & Bishop sold same 94 av 158 and 9 av 233 at \$3.55.

Condon sold same 29 av 241 at \$3.60.

Simmons sold same 23 av 255 at \$3.52%.

Carter & S sold same 66 av 201 at \$3.55.

Micol sold same 11 av 205 at \$3.55.

Griffith sold Hammond, S & Co 113 av 230 at \$3.57%.

Ramsey sold same 85 av 160 at \$3.57%.

Devine sold Sullivan 94 av 158 at \$3.52%.

Robb sold same 31 av 183 at \$3.55.

Descher sold same 93 av 112 at \$3.55.

Roe & Holmes sold same 24 av 115 and 79 av 118 at \$3.55.

Spicer & M sold same 15 av 129 at \$3.52%.

Haley Bros sold same 144 av 141 at \$3.50.

Fox & Bishop sold same 94 av 158 and 9 av 233 at \$3.55.

Condon sold same 29 av 241 at \$3.60.

Younger & M sold same 63 av 236 at \$3.55.

Eddy sold same 144 av 206 and 20 av 241 at \$3.55.

Warren sold same 69 av 180 at \$3.55.

Plunkett sold same 135 av 181 and 18 av 175 at \$3.55.

Davis sold same 50 av 154 at \$3.55.

Shelton sold same 71 av 200 at \$3.55.

Spicer & M sold same 19 av 257 at \$3.57%.

Nott sold same 32 av 234 at \$3.57%.

Parks sold same 31 av 209 at \$3.55.

Luckie sold same 134 av 239 and 32 av 212 at \$3.55.

Reason sold same 68 av 204 at \$3.55.

Sutton sold same 73 av 216 at \$3.55.

Richmond sold same 71 av 190 at \$3.57%.

Spicer & M sold same 19 av 257 at \$3.57%.

Nott sold same 32 av 234 at \$3.57%.

Horticultural.

For the Michigan Farmer.
HORTICULTURAL DIVERSIONS IN DECEMBER.

During the last of November and the first half of December I was decidedly under the weather, and confined to the bed a part of the time. Along towards the middle of the month I began to mend and wake up at five o'clock in the morning and build the fires, and get out and do something. A good many little things I had planned to do before winter had hung fire, and by the morning of the 15th I resolved to commence.

The disagreeable continuous rainy weather had cleared up, and although a high wind was blowing, the thermometer was above 34 and the sun shone occasionally. Sticking pair of pruning shears in my hip pocket, and taking a sledge and a hunk of binder twine, I started for the farther end of the farm, which is much longer than wide. Out in the middle of a row of Loudon raspberries I had a bush of Red Cross currant. It had cost the best part of a dollar, together with a mate which did not live, so altogether I had \$1.30 invested in that currant bush. It had stood there two summers and made a good growth, besides showing fruit enough to mark it as a valuable and distinct sort, and I concluded that it was time I was increasing the stock. With the pruning shears I cut back most of the new wood, and cut the pieces into lengths of from six to nine inches, the longer ones being shoots of that length. I found I had an even forty. There being room, I dug a trench near the bush, making it six inches deep and about sixteen long, and in this I distributed the cuttings, butt down. I packed it hard with rich earth, and then covered with six inches of frost-bitten grass and leaves from the edge of the woods. I sifted on a little earth and then put on more grass and leaves, keeping it all down with a few pieces of brush. The ground around the cuttings will not freeze, and I expect that early next April the lower end of each cutting will have a little white granular callous just beginning to throw out rootlets. I shall plant them in a single row about six inches apart, and shall be disappointed if I do not have by the next September 30 or 35 one-year-old Red Cross currant bushes.

I next turned my attention to a Gregg raspberry patch close by. In the spring we split something over a thousand stakes to tie the raspberries to, but did nothing more than leave them in two piles near by. The stakes were of chestnut, two inches square and four and a half feet long. Some of these I distributed and drove and tied the bushes up to them, trimming at the same time. I found I could do about thirty per hour, which was better than I expected, as the growth was very heavy and well branched. I was not very strong, but I enjoyed the bracing air, and finally, contrary to expectation, put in that day and the next, my son distributing and driving stakes the second afternoon. I have yet three or four hundred to tie up, but am well pleased with what has been done, and believe the better chance to cultivate and hoe, and convenience of picking, will wholly pay for the time of staking and tying. The stakes will last during the life of the plantation—say eight years—so the cost of them, which might be figured at \$25 per thousand, will be divided through several crops.

The morning of the 17th we had a load of Christmas trees to cut for the Akron market, and before they were all loaded it began a steady, slow rain, which lasted several days. I did such indoor work as I could until the 21st, when I could endure it no longer, and sallied out, although a mist was falling and freezing. In fact, there had been an ice storm for three days, and three horses had broken legs the day before in Akron. Taking the pruning shears, a mattock, spade and some grain sacks, I headed for the Cuthbert raspberry patch about 100 rods from the house. Near one end of this there had been growing a handsome blackberry bush, a chance seedling. Low and bushy, not more than three feet high, it had done itself proud in berry time. At one picking I gathered more than a quart, and picked more or less at four other times. The four old branches covered with the dead penduncles were a sight all the fall. My errand was to dig from this bush what roots I dare, cut them up, and bury them as root cuttings, to be used next

spring. I found there were but few large roots, and a great many slender fibrous roots, which probably accounted for the dwarf growth, and the great productiveness. Only one sucker had started, and I carefully dug this, cut what roots I dare, and heeled it in by the parent. The special desirable characteristics of this chance blackberry were jet black fruit larger than the Snyder and equally good, and of the same season, only it matured a large amount of fruit at once and was out of the way about the time the Erie and Minnewaska commenced. Out in the raspberries six or seven rods was another bush almost identical in every respect with the one described. This I also dug around securing what roots I might. This plant had eight fine children, or suckers, and like the other showed a remarkable growth of fibrous roots, causing me to believe that both came from one seed, and a piece of root was dragged away by the cultivator and sprouted in another place. The weather was about freezing and I put the roots into bags as fast as dug. The conditions were not such as to make the work a holiday task, but I imagined I was a hobo from town digging for skunks, so the hour and a quarter did not hang heavy on my hands. After dinner I spread some paper on the kitchen floor and proceeded to cut the roots into pieces from two to three inches long. I had 187 of one bush, and 411 from the other group, or about 600 in all. I kept them separate, putting into coarse paper bags and taking to where the currants were buried. I sunk some old grape baskets about a foot deep, and putting in a layer of fine soil and a layer of cuttings, packed them all away to callosus, covering with leaves as in the case of currants.

Perhaps some of my readers do not know that blackberries are propagated in this way. Cuttings are made in the fall and buried below frost. Early in April, at first garden-making time, trenches three inches deep are opened and the roots, which are nicely caloused, are strewn along and covered. Small sticks are stuck once in three feet to mark the rows so hoeing can be done before the slow starting sprouts appear. Very fine plants are grown in this way with roots three feet long. I have a little book in which my strawberry patches are mapped, and in this I recorded my putting away of the currants and blackberries, and this evening I have told the readers of The Farmer about it to show that one need not become a woodchuck even if the weather is a little rough. To-morrow, if it is no colder, I shall tackle some large Erie bushes, and in a few hours I hope to dig enough roots to make fifteen thousand cuttings. The roots will be taken to the cellar and straightened and laid side by side in a long bunch or rope about three inches through and tied with light wrapping twine once in four or five inches. This rope will be taken to the barn and with a lever feed cutting box I shall cut the pieces, making forty or fifty at every cut.

The cuttings will be buried in soap boxes, and this can be done even if there is three inches of frost, as the unfrozen earth can be used to pack in, and if necessary a brush fire can be started to warm the air while burying, but this will probably not be necessary before New Year's.

Some day when the vines are not frozen I am going to make a couple of hundred grape cuttings of several choice varieties, and these will be tied in bunches of twenty-five and buried beside some log under the leaves in the woods. I prefer outdoor burying, to cellar packing, as there is no danger of the earth getting dry.

L. B. PIERCE, Ohio.

December, 1897.

For the Michigan Farmer.

HARD CONDITIONS.

We don't realize the hardships and discomforts plants suffer in an ordinary sitting room, and the wonder is that they struggle through and in spring have even a spark of life, and every flower that comes ought to make us astonished and admire the dear little things that they have spunk enough to show even one bud. Their first enemy is the base burner, or furnace, with its dry heat; but a kettle of water on the stove helps that greatly. Plants suffer more from too much heat than too little. I have seen them in a sunny window, a few feet from a hot stove, and, of course, they sulk. A room next to the one with a fire is the best, and nine-tenths of the winter it is warm enough. A few very cold nights, newspapers wrapped around will be sufficient. Another trouble is

in watering too much, or too little; both make the plants suffer. Generally they don't like wet feet or water standing in the saucers all the time. One way is to scrape the soil in the top of the pot. One very soon finds out by experience if it is moist or dry. Dust is another trouble. A rubber plant syringe is the remedy for this. If the stand is on a piece of oilcloth, the plants need not be removed; the spray is so fine the leaves get the most of it. As for insects, make a weak suds of any good laundry soap, and put in your syringe. Spray the leaves under and over, and that is generally sufficient.

A wise selection is most important. Don't try to raise hot-house darlings, like roses, carnations, glorias or orchids in a common sitting room. If your windows are shaded, foliage plants will succeed the best, and the rich greens are a relief to the eyes on snowy days. Tradescantia, with its variegated shades, is a beautiful plant, and so is grevillea, swansonia and palms. An Abutilon, especially Sonn de Bon, with its white-margined leaves, even if it does not flower, is beautiful. Don't for a moment question whether it pays to have plants. They make the sitting room air more healthy, are a pleasure to the household and to the passer-by, and help to make the family cheerful through the long, dismal winters.

ANNA LYMAN.

SCALES AND HOW TO TREAT THEM.

At the late meeting of the State Horticultural Society, Prof. L. R. Taft, of the Agricultural College, read a paper on "Pests, New and Old." As he made extended reference to the various scale insects, especially the San Jose, which has assumed such formidable proportions in some sections of the State, we print what he said about them as of much interest to orchards all over the State:

Of the insects which have, within the past two or three years, been brought particularly into notice, there is nothing more to be feared, I think, than the one known as San Jose scale. We do not know just where it came from, but it reached us by coming across the mountains from California, and now it is on its way back home again. It has reached so far west as our own borders, upon its return, and though I do not know of a single tree in Michigan infested with this insect, still I should not be at all surprised if there were large numbers of them, from the fact that or the first year or two it is not noticeable, and it is not until the third year, when the tree is dying, that it comes to the attention of the owner and he attempts to ascertain the name of the insect.

You can judge of the danger from this insect when you realize that three years is sufficient for it to destroy a tree, particularly if the tree is young; and more than that, it is to be feared because it spreads rapidly. While it has no means of locomotion from place to place, in itself, it is carried by the birds and in various other ways scattered from tree to tree; and, once there, it multiplies rapidly. It has been learned that if every individual developed during the season should attain its full size and develop itself, we might expect something like four millions at the end of the season from a single one in the spring; but, of course, they do not all mature, by any means. But, with this very rapid development, you can see that a single insect on a tree would soon be able to do great injury. It is a really terrible insect—terrible not only because it kills the trees, but because, when it has gained a lodgment on a tree, sufficient to be observed by an ordinary person, the injury by that time might be sufficient, and would be on a young tree, to forever blight any hopes of fruit from it.

It is a sucking insect—it punctures the bark and sucks the juice, and the

sap thus taken, and the injury made by the insect in the bark, would be sufficient to prevent any further growth. This insect has been found in many places in Ohio, in at least a dozen localities, and the trees nearly all trace back to one or two nurseries in New Jersey and possibly one or two in New York. There is some doubt about the trees from New York. It is possible they came directly from New Jersey; so far as we know, at least, there is no nursery in western New York that is infested. There have been nurseries on Long Island, and along the river there have been a few cases; but the western New York nurseries, so far as I have learned, have escaped. I think, too, our Michigan nurseries are free, but there is a chance that this insect is scattered about on some of the trees planted during the last six or seven years. I think it would hardly go back of five years; but, if any of you have bought trees from New Jersey, I would advise looking them over carefully.

When it becomes numerous on the trunk it gives the appearance of coal ashes daubed on. On examination you will notice that each of the scales has a minute depression on its center and upper side, and you can see with naked eye the scales. Many of them are of black color. With a small glass you can easily make them out, and you will generally find, where this depression is, a yellow spot. Here is a sample (exhibiting a small branch) of genuine San Jose scale. It has been thoroughly soaked with kerosene oil, and with the glass you will be able to examine the scale.

As to the remedies for this. If you

(Continued on page 27).

When writing to advertisers please state that you saw their advertisement in the Michigan Farmer.

AGENTS WANTED to SELL NURSERY STOCK

Liberal commissions paid. Address for terms E. C. HUGENFRIED & CO., Monroe, Mich.



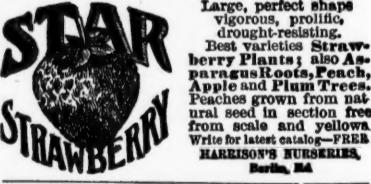
\$200 FOR A NAME
for this New Tomato and a New Beet which we shall introduce in 1899, to those wishing to test them this season and compete for name prizes we send a packet of the seed of each, also seeds of our **Star Prize Collection**, NEW WHITE PRIZE ONION, NEW WINTER QUEEN CELERY, CINCINNATI MARKET RADISH, All for 10c. in stamps or silver, together with 1898 GARDEN AND FARM MANUAL.
JOHNSON & STOKES
Dept. 34, 217 Market St., PHILADELPHIA



In buying seeds "economy is extravagance," because the cost of cultivation wasted on inferior seeds always largely exceeds the original cost of the best and dearest seeds to be had. The best is always the cheapest. Pay a trifle more for

FERRY'S SEEDS

and always get your money's worth. Five cents per paper everywhere. Always the best. Seed Annual free. D. M. FERRY & CO., Detroit, Mich.

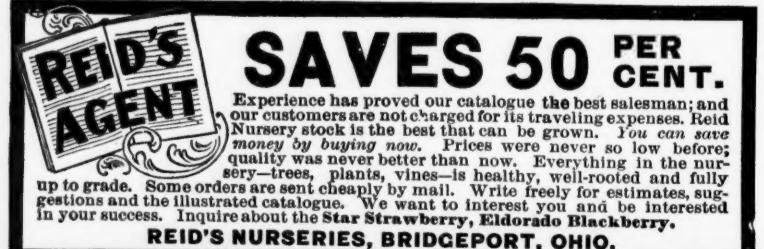


Large, perfect shape
vigorous, prolific,
drought-resisting.
Best varieties: Star-
berry Plants, also As-
paragus Roots, Peach,
Apple and Plum Trees.
Peaches grown from nat-
ural seed in section free
from scald and yellow-
rot. Write for latest catalog—FREE
HARRISON'S NURSERIES,
Berlin, Pa.



HONEY MONEY and how to get it is the theme of Gleanings in Bee Culture, a handsomely illustrated Monthly Magazine devoted to Apiculture. Free sample, together with Book on Bee Supplies and Book on Bee Culture to all who mention this paper when writing.

THE A. I. ROOT CO., - MEDINA, OHIO.



SAVES 50 PER CENT.

Experience has proved our catalogue the best salesman; and our customers are not charged for its traveling expenses. Reid's Nursery stock is the best that can be grown. You can save money by buying now. Prices were never so low before; quality was never better than now. Everything in the nursery—trees, plants, vines—is healthy, well-rooted and fully up to grade. Some orders are sent cheaply by mail. Write freely for estimates, suggestions and the illustrated catalogue. We want to interest you and be interested in your success. Inquire about the Star Strawberry, Eldorado Blackberry.

REID'S NURSERIES, BRIDGEPORT, OHIO.



We PAY FREIGHT is only one of Stark's Challenge Points—the full 12 plainly show WHY Stark Bro's grow and sell the most trees. Then, we will not cut price no matter how LOW our price is in new edition; finest, most complete yet issued sent free. STARK BRO., Louisiana, Mo. Stark, Mo. Rockport, Ill. Dansville, N.Y.

STARK NURSERY

have a young tree that is at all badly diseased, I think the most prudent thing would be to take the tree out at once and burn it. If you have only a few insects on the branches, you could cut the branches back and destroy them, and treat the trunk of the tree so as to probably do away with further harm. Fire is perhaps the best method, but next to that is whale oil soap in water, using a pint and a half to two pints of soap to the gallon, and thoroughly scraping the tree, if it be a small one; or if larger, by thoroughly spraying it and repeating this process after the lapse of a week. If a single scale escapes, the chances are you may have a thousand or a million at the end of a few months. This remedy, if brought in contact with the insects is effective. The kerosene emulsion is also good, but perhaps not so good as the whale oil soap. If the leaves are off make the emulsion twice as strong as usual—one part to eight of water. That, particularly if you repeat it, would also destroy them, and I would certainly, on account of the great danger, advise everyone who has trees from any of these eastern nurseries, to look over any such which have been put out within the last five or six years; and if you find anything which looks like the specimens here, if you send a specimen to either myself or Prof. Davis, at the college, we will tell you what we think of it.

There is another insect which has been troublesome to some sections. I brought along a little twig with some on. It is the common brown plum scale, different from San Jose scale, but may prove equally destructive. This is more likely to occur on trees which have been neglected and in dry seasons, but it is seldom very injurious to trees which are growing properly, and the remedies would be the same as for the other. In fact, for any of these scale insects, there is nothing better than whale oil soap or kerosene emulsion. Recollect that with these Paris green would have no effect, nor would Bordeaux mixture. The scale must be killed by direct contact, and Paris green has to be taken into the system to have any effect.

I meant to allude to another form of pest, which came from one of the lake shore counties, and I wish to speak of it from the fact that you might mistake it for San Jose scale. It is very much like it, but not so injurious, and still it is to be feared. The same remedies may be applied for this. The insect is somewhat longer and larger than the other one, and I think you would be able, with a little examination, to distinguish it with the naked eye.

Charles Foster, of New York city, a large exporter of apples, says of the season's trade: "Prices abroad are not encouraging, owing to the high home rates for fine fruit, but I look for a profitable market after the holidays if supplies are sent forward judiciously in quantity and quality. New York and Virginia are about shipped out. The West is a fortunate source of supply this season, and New York and Boston will have to arrange their shipments and consumption from a number of remote Western orchards. The immensity of the apple belt of the West is only realized by those of us who have gone over the ground. The beauty and character of many Western collections will give the fruit a winning position. How well it will carry from cold storage is yet to be experimented, but my impression is that several varieties will be of hardy texture that will stand all ordinary commercial usage."

The Poultry Yard.

For The Michigan Farmer.
POULTRY COMMENTS.

As a general purpose breed, the Wyandotte ranks well up in the estimation of those acquainted with their practical qualities. They are fowls that have been slowly but surely gaining popular favor for several years past until at present they occupy a place that bids fair to count them among the general purpose breeds of the future. Among the parti-colored breeds, and the solid colored ones, too, for that matter, there are none that surpass the Silver or Golden Wyandottes in points of beauty. Of course, well bred standard stock is referred to. The only drawback these two varieties have seems to be in the fact that typical specimens are extremely diffi-

cult to produce without double mating and a thorough understanding of the two types of fowls that must be mated together to produce a certain result. Or in other words, it is necessary to resort to pullet and cockerel matings to produce standard specimens of both sexes. This is due almost entirely to the fact that the varieties have not yet been sufficiently developed to bear out the rule, "like begets like."

Some seven or eight years ago we invested in some Silver Wyandottes and bred them with varied success for about five years. While they were a good practical breed, there were others that seemed for our purpose just as good, if not a little better, hence, as it was not thought worth while to go to the extra expense of keeping them up, they were finally discarded. One of our difficulties was to produce well marked specimens. There was no difficulty in getting vigorous stock, but it was an entirely different matter to produce a good plumage—there was always some particular section that was decidedly off in color. Only one mating was used, still it was quite enough; if we had had a half dozen, not knowing how to mate them properly, "for best results," our success would not have been different unless the desired ends were attained by chance matings, which would have been scarcely probable.

Among the various varieties of this family, it is doubtful if all put together enjoy a greater degree of popularity than the White Wyandotte, especially among eastern poultrymen. As indicated by their name, their plumage is white, which renders it possible to produce uniform fowls without being obliged to resort to the double mating method, unless one is aiming at exhibition stock, when it will be found just as difficult to produce a blue ribbon winner as with any other variety of fowl; still, even in such cases double matings are not necessary.

The Buff Wyandotte, comparatively speaking, is just out, having been on the market only four or five years and as a consequence can scarcely be styled anything like developed, nevertheless one occasionally sees specimens that are exceedingly fine, all things considered. This variety is destined to become popular, especially among the fanciers who are ever ready to take up anything new in the buff line. It is not probable that this variety will ever justly claim superiority over others of the same breed unless the cross-breeding necessary to produce the buff color adds a new quality to the make-up of the fowl; there is little or no reason to believe that such will be the case.

* * *

Opinions differ widely as to the proper way to water fowls during winter. Some recommend that water be kept before the flock at all times, claiming that even if the water is ice cold, not enough will be taken at one time to do any serious injury. A few advocate the water heater as a successful and necessary feature where winter eggs are to be had. While there can be little doubt that such an article would be excellent under certain conditions, it is quite a serious question whether it would prove a success with the average farmer, to make no mention of what seems like a necessary risk, besides more or less expense. Others favor the idea of giving a warm drink once a day and as soon as all have had their fill removing the water and allowing them no more until the following day at the same hour. We are quite in favor of this method, although there are many who do not think as we do in regard to the matter. It works with the best of success with cattle and the writer can see no reason why the same rule will not hold true with poultry. The secret of success lies in getting the stock used to it. As soon as they become accustomed to being watered only once a day they seem to be perfectly satisfied and do not seem to expect or care for drink at other than the regular hour. With such a method, one of the essentials to success is regularity.

* * *

Last winter we fed considerable ensilage to our poultry with very good success and will doubtless do so during the present season. We fed it at the rate of about a bushel to 40 head per day. The ensilage was thrown in a heap upon the floor and the fowls allowed to scratch it about and pick out what grain and green stuff they wanted. It is one of the best fattening feeds that we ever fed, and for that reason must be fed with some moderation, but if good judgment is

used no ill results will follow. There is only one difficulty in feeding ensilage; being moist, it gives out dampness so that the floor must be frequently cleaned to keep it in good condition.

C. P. REYNOLDS.

For the Michigan Farmer.

A BEGINNER'S EXPERIENCE.

As I am a constant reader of your valuable paper, The Michigan Farmer, I take the liberty of giving my experience in feeding fowls for eggs. In the first place, know that your house is warm, clean and roomy. Second, do not think you will get many eggs when only corn is fed. A great many farmers feed nothing but corn, then grumble because they get no eggs, and say that fowls do not pay their keep—such is the truth. But fowls can be fed so they will pay, and fed for less than those that are fed on corn.

On reading the poultry department recently I saw what Nellie Reed had to say. I think she is all right in regard to cleaning her poultry house every morning. As long as I try to keep poultry I shall observe the old saying, "what is worth doing at all is worth doing well." And here let me say to those who do not follow that rule, poultry raising to them will not be a success. I think that if people would follow this rule there would be but little use for cholera and roup cures.

For morning feed I make a warm mash of ground feed, consisting of corn, oats and wheat ground together, with a few handfuls of ground bone and meat added. I keep plenty of fine straw for them to scratch in, and at noon I throw a little millet seed in the straw, and from then till night they are as busy as bees. If very cold I feed corn at night. At all times they have green stuff before them, such as cabbage, apples and onions. Last winter was my first experience in feeding for eggs. Having only 60 hens, I gave them the best of care, or in other words, the best that I could give. Sixty hens, from January 1st to May 1st, 1897, laid 262 dozen and 7 eggs, or 3,151 eggs in 120 days, averaging 52½ eggs per hen. Is that not pretty good? I think by next fall I will have some fine birds for sale, and when I do you will see my ad. in The Michigan Farmer.

Lenawee Co., Mich. FRED COLE.

It is said that when charcoal is added to the food of turkeys while being fattened, they gain much more rapidly than without it. When full a portion of the food is liable to ferment in the crop before it passed into the gizzard. Charcoal, which is a wonderful absorbent, takes or absorbs the gases, and relieves the acidity. It performs the same office for hogs, hence should always be within their reach.

MEN CALL WOMAN A MYSTERY.

So She is to Them—Not so to a Woman.

A Woman's Knowledge Saves Mrs. Ebbert From an Operation.



A woman understands women as a man never can hope to. For this reason Mrs. Lydia E. Pinkham, of Lynn, Mass., now known all over the English-speaking world, set to work to help her sex.

After long and patient investigation, Mrs. Pinkham confirmed her own conclusions, namely: that seven-eighths of the sufferings of women are due to disorders of the uterine system. Reasoning on this line, she saw that the only preventive of early breaking down, was a specific medicine which would act alone on the female organism.

This was why she prepared her excellent Vegetable Compound, which has been such a boon to thousands and thousands of women. If you have headaches chiefly at the top of the head, and are troubled by painful menstruation, dizziness, sleeplessness, backache, and that bearing-down feeling, Lydia E. Pinkham's Vegetable Compound will tone up your whole system. MRS. CHAS. D. EBBERT, 330 Wood St., Reading, Pa., testifies to the great power of the Compound.

"Mrs. Pinkham—I can say that your medicine has cured me of the pains and troubles which I had. My case was a very bad one, and puzzled the doctor. My womb had fallen and I had terrible pains in my back and hips. I could hardly walk. My husband went to our family doctor, and he prescribed medicine for me, but I found no relief, and grew worse instead of better. The doctor examined me and wanted to perform an operation, but my husband would not consent. Seeing the advertisement in the paper, I got a bottle of Lydia E. Pinkham's Vegetable Compound, and before I had taken half of the second bottle, I felt like a new woman. In all I have taken four bottles of your medicine, and can say that I am entirely cured. I hope that every woman suffering as I did, will follow my advice and take your medicine at once."



THE HATCHING HEN HAS LOST HER OCCUPATION

And in the production and brooding of chicks she has been supplanted by the better and everyday RELIABLE INCUBATORS AND BROODERS. They Hatch and Brood when they do not get eggs. They now the strongest chicks and the most of them. If you want to tell about these machines and our Mammoth Reliable Incubator and Brooder Co., Quincy, Illinois.

\$5 Hand Bone, Shell, Corn & Grit Mill for Poultrymen. Daisy Bone Cutter. Power Mills. Circular and testimonials Free. WILSON BROS., Easton, Pa.

CRUSHED OYSTER SHELLS 60c per 100-lb bag; Mica Crystal Grit, 85c; White Poultry Bone, \$2. THE O. C. SHEPARD CO., Medina, O.

Two Great EGG MAKERS MANN'S GREEN BONE CUTTER, GRANITE CRYSTAL CUTTER. For Poultry. Cash or instalments. T. W. MANN CO., MILFORD, MASS.

ACTUAL POULTRY FACTS A beautiful book describing over 50 varieties of Chickens, Ducks, Turkeys and Geese. All the leading breeds illustrated in colored engravings. Gives price of fowl's eggs, and much valuable information and many recipes for diseases. J. R. BRABAZON, JR. & CO., Box 26, Delavan, Wis.

FIRST PRIZE WINNERS Our 1898 Mammoth Poultry Guide No. 2 will be mailed FREE. Something entirely new, tells all about poultry, how to be a winner, how to MAKE BIG MONEY. Contains beautiful lithographs of fowls in their natural colors. Send stamp for postage. JOHN BAUSCHER, Jr. Box 46, FREEPORT, ILL.

HATCH CHICKENS BY STEAM With the MODEL EXCELSIOR Incubator. Simple, Perfect, Self-Regulating. The most successful operation. Lowest prices. First-class Hatchery made. GEO. H. STANL, 1114 to 122 S. 6th St., Quincy, Ill.

THE IMPROVED VICTOR Incubator Hatches Chickens by Steam. Absolutely self-regulating. The simplest, most reliable, and cheapest first-class Incubator in the market. Circulars FREE. GEO. ERTEL CO., QUINCY, ILL.

THE ILLINOIS INCUBATOR. Used by the U. S. Government. Fire Proof, Self-Regulating. Guaranteed HATCHER. Catalogue free. J. H. JONES, Manager, Box 22, Streator, Ill.

OLENTANGY INCUBATOR. This machine will hatch every egg that can be hatched. It is the best. Absolutely self-regulating. Olen Tangy Brooders only \$5. Send stamp for catalogue. Address, GEO. S. SINGER, Cardington, O.

\$5 Cash (50 egg size) On Trial \$5.75. 3 hatches with Bantam, 20, 37 and 48 chicks from 50 eggs. Jacob Whippet, Cecil, O. Largest cheap. Send to for No. 193. Buckeye Incubator Co., Springfield, O.

Grange Department.

Our Motto:—“The farmer is of more consequence than the farm, and should be first improved.”

Address all correspondence for this department to
KENYON L. BUTTERFIELD,
AGRICULTURAL COLLEGE, - - MICH.

News from Michigan Granges is especially solicited.

EDITORIALS.

We have several “feeble ideas” floating around our sanctum, but while our space is so limited and the good things written and spoken by the leaders in our Grange work so plentiful, we shall refrain from inflicting them. And, by the way, we want to hear frequently from Patrons on subjects of interest to the Grange. Write briefly, and to the point; but WRITE.

THE “FARMER” CORRESPONDENTS OF SUBORDINATE GRANGES.

The result of Bro. Horton’s request to Subordinate Granges to choose correspondents is already bearing fruit, as will be noticed in our news columns this week. We want to make a few suggestions which may be helpful to these correspondents: In the first place, send your name and address to Geo. B. Horton, Fruit Ridge, Mich., and also to The Michigan Farmer, Detroit, Mich.; state to them that you have been chosen correspondent for your Grange, giving the name and number of your Grange, and writing your name very plainly.

Here are some “boiled down” suggestions:

1. Come often.
2. Be brief.
3. Tell only important news.
4. Write on one side of the paper.
5. Write proper names with especial care.

6. Give the number of the Grange and the county.

7. Sign your own name, even if you do not want it published.

8. Mail by Saturday morning at latest, if you wish insertion in the following number, and address Agricultural College, and not Lansing.

9. The Grange should furnish stamps and envelopes.

We also want to suggest the following as being points that might be mentioned among the important news:

1. Number of new members given fourth degree.

2. New hall, or other improvements.

3. Special features, such as socials, contests, dramas, visits to other Granges, etc.

4. Discussions at Lecturer’s hour; the best thoughts brought out, and what seemed to be the general opinion of the Grange on the subject.

5. Co-operative purchases.

6. New plans for getting members, or increasing interest in Grange work, that are successful with you, but which you think few Granges practice.

7. Difficulties.

DO YOUR MEMBERS TAKE THE FARMER?

If they don’t, why don’t they? Every Patron in Michigan ought, yes ought, to take The Farmer. The mere fact of a Grange department places an obligation on every Grange member. No Grange can do its best work if out of touch with Grange plans and labors elsewhere. No individual Patron can live his best Grange life if he fails to note the progress and trend of the work at large.

The best way for a Grange to do, to insure a general reading of The Farmer, is to pay for it, out of the Grange treasury, so that each family in the Grange shall have it regularly. If this is not deemed advisable make a thorough canvass of the Grange and get as many subscriptions as possible.

The best time is now. Start the new year right by getting a good list for The Farmer. It will be the means of making better farmers and better Patrons of your members.

GRANGE NEWS.

DELTON GRANGE, No. 370.

Elected as officers: Master, Herbert J. Lowell; overseer, Wm. Reeve; lecturer, Mrs. Ursula Lowell; secretary, Mrs. Eliza Kittle.

Eaton Co.

DEWITT GRANGE, No. 459.

Elected as officers for ensuing year: Master, Luther Sibley; overseer, Frank Hoffman; lecturer, Mrs. C. L. Pearce; secretary, Jerome Dills.

Clinton Co.

FRUIT RIDGE GRANGE.

Christmas day we had a dinner and tree for the pleasure of the children of Patrons and the younger members of our Grange. We elected as officers the following: Master, Lee Dean; overseer, A. W. Williams; lecturer, G. B. Horton; secretary, Ernest Bryant. Lenawee Co. J. W. A. Charlevoix Co. MRS. L. R. ALLEN, Cor. ELY GRANGE

Was organized only eight months ago, and numbers thirty, all of whom are well pleased with the work. The new officers are: Master, Nelson Bennett; overseer, Alex Clark; lecturer, Mrs. Ethel Miller, secretary, Will A. Miller. Emmet Co. CORRESPONDENT.

WHITNEYVILLE GRANGE, No. 222.

Elected the following officers: Master, A. T. Dean; overseer, D. C. Peterson; lecturer, Mrs. O. D. Peet; secretary, Mrs. A. T. Dean. Installation of officers was held Jan. 1 in the evening. Brother H. Dennison, of Cascade, our delegate to State Grange, was the installing officer.

Kent Co. A. T. DEAN, Cor.

BRADLEY GRANGE

Elected their officers as follows: Master, Joseph Fansler; overseer, Alice Fox; lecturer, Myron Briggs; secretary, A. B. Congdon. We meet every other Saturday alternately afternoon and evening. Expect to have a drawing at installation of officers.

Allegan Co. A. B. FOX.

ASH CENTER GRANGE, No. 471, elected principal officers as follows: Master, Chas. M. Hood; overseer, Chas. A. Berry; lecturer, Edward H. Parish; secretary, Jay McCallum. We meet every Tuesday night, with good attendance. Three candidates were given the third and fourth degree. We have our hall nearly done.

Monroe Co. CORRESPONDENT.

ORION GRANGE, No. 259, elected as officers: Master, J. P. Coon; overseer, E. S. Letts; lecturer, Mrs. J. L. Davis; secretary, J. Y. Clark. January 8, at installation, we shall have an oyster supper. Hon. Peter Voorhees, Pontiac Grange, is invited to install officers. Orion Grange has thrown its hat into the corner, taken off its coat, rolled up its sleeves, and is ready for the new year.

Oakland Co. MRS. J. K. BURT, Cor.

GRAND TRAVERSE GRANGE, No. 379

Never loses a meeting for want of attendance. Returning prosperity is having its influence in Grange work. We have just re-instated six, and a larger number have applied—partly the result of a literary contest just finished.

While the Grange is emphatically a school, and while children’s days and picnics are all right, I sometimes think that we waste power by trying to attract the children or very young people to the Grange. Our work is especially adapted to those who have passed their school days.

Grand Traverse Co. A. P. GRAY, Cor.

THE MASTER’S ADDRESS.

EXTRACTS FROM WORTHY MASTER HORTON’S ANNUAL ADDRESS AT THE STATE GRANGE, 1897.

(Concluded from last week.)

PURE FOOD.

The State Grange may look with satisfaction and pride upon the successful and beneficial operation of laws governing the manufacture and sale of food products in our State. The records will prove that the State Grange was the first to formally advocate Pure Food regulations, and to start an organized movement to have such laws enacted. The State Grange may well consider it as one of its greatest achievements. From small beginnings, both in appropriation and legal requirements, more perfect regulations are being enacted and enforced with the endorsement and willing cooperation of all consumers and fair-minded dealers. The principles involved in the enforcement of Pure Food laws, appeal to the moral and justice-loving sensibilities of people to such an extent that they will demand such additions to present laws as to completely eradicate fraud and deception from the manufacture and sale of food products, so that the purchasers and consumers will be protected in receiving that which is desired, asked and paid for. This protection to purchasers should be extended to drugs, clothing and dry goods, and to all articles of merchandise in the manufacture and sale of which fraud and deception are so frequently practiced.

Believing that it is proper to recognize good service from public officials, we may mention that in putting into successful operation without serious friction regulations that required such radical changes in the methods and stocks of manufacturers and dealers, the thanks of the people are due ex-

Commissioner Storrs for his firmness, fairness and wisdom in the matter; also to present Commissioner Grosvenor, for the vigorous and thorough methods now employed in prosecutions and inspections necessary to enforce and teach people the full requirements of the law. All people who believe in eliminating fraud and deception from the manufacture and sale of food products should vigorously support Commissioner Grosvenor in his present suit to maintain the anti-color law.

TOWN CONVENIENCES EXTENDED TO THE FARM.

It is the exalted mission of the Grange to teach farm people to love the country and their homes therein, not only because of the financial interests they may have in its occupations and as a mere abiding place, but because of its grandeur, freedom and purity; its fresh air and glittering fields of dew, and its abounding evidences of divine wisdom, all of which should cause the heart to swell with adoration, gratitude and love; for of such is it to truly love the country.

Because of these and having our fixed abode in company with them, we will teach every farmer to surround his home with all of the comforts, conveniences and helpful agencies the world can give. Through the Grange meetings we contribute to our social and educational wants by coming together from different neighborhoods in fraternity, for readings, recitations, discussions and friendly counsel. The Grange advocates bringing to the people in the country every possible benefit enjoyed by town and city people, believing that in no other way can we satisfy the present demands of home.

FREE RURAL MAIL DELIVERY.

Along this line, the Grange was found among the first to advocate “Free Rural Mail Delivery.” At sessions of the National and State Granges for several years back, resolutions favoring the adoption of this system have been adopted. We are now pleased to note that the constant dropping is wearing away the rock and objections and doubts, and public opinion is fast crystallizing in favor of the system. Experimental appropriations have been made and work performed with results proving that the general adoption of the plan is feasible and desirable. In accordance with these results, it is published that the present postmaster general declares in favor of the general system of Free Rural Mail Delivery, at the earliest possible time. We should continue our requests, however, until our wishes are fully realized, so that the farmer, on his return from the fields, will find his letters and daily papers awaiting him, and his outgoing mail, far on its way to destination.

NO HAWKERS AND PEDDLERS’ LICENSE IN THE COUNTRY.

In connection with the work of encouraging and securing all possible conveniences to country people, special attention is here called to an existing law, certain portions of which are strongly antagonistic to the best interests and desires of country people, and should be repealed. Reference is made to the law regulating and licensing the hawking and peddling of goods in rural districts, and which demands the payment of a license by local store keepers and others for the privileges of carrying groceries and other wares in horse wagons to farmers’ houses and there sold or exchanged for butter and eggs as the case may be. The license is so high as to be prohibitive and is wholly wrong. It is in the interest of stores in the larger towns, and is calculated to force farmers to go to the towns to transact their business. We repeat that there should be no barriers in the way of all these conveniences coming to us in the country, and it is a duty we owe our homes to use our strongest influence against such obstructions to our natural rights. It is a great saving of time during the busy seasons of the year to have the small necessities brought to the farmer’s door, and in the older parts of the State, where farmers have had these conveniences, the business has proved satisfactory, both as to prices and quality of goods. The farmers enjoy going to town, and will go when they desire, but a law which operates to compel them to go when it is to their profit to cultivate and harvest crops, is too ancient for this progressive age, and should be repealed.

The attention of this body is called to the matter with the view of possible action, to the end that the next Legislature may be memorialized asking repeal of this trespass upon the natural rights of farm people.

FARMERS MUST BE SELF-RELIANT.

In support of work along the line of farmers helping themselves, I wish to emphasize the ideas already suggested. I would have the farmer consider himself and so prepare himself that he is the peer of any man, and to so broaden his ideas that he will assert his independence of old-fashioned notions that bind him here, and obligate him there.

Throw mere sentiment to the winds and in the strength and freedom of full manhood, look out over the world of benefits and opportunities and say, “These are for me, the same as for other men. My country home is my palace, and there I live from choice, and from there will I reach out to near and far and I will labor to bring all attainable benefits, and place them close to my door.” Such ideas should govern the acts of every farmer in the land. If such can be, what is there that the farmer cannot have? He would not then act hesitatingly, as if asking, “Please, sir, may I do this?” but instead, he would act with confidence and that which he willed, in the line of justice and reason, would be his.

FARMERS’ INSTITUTES, ETC.

Granger and members in all parts of the State should take deep interest in the success of Farmers’ Institutes. Attendance and participation in proceedings should be the rule. Institute and Grange work are of the same and each will benefit the other.

Granges and members in all parts should not be neglected. Its utility in the work of disseminating useful knowledge is unquestioned.

Granges should not neglect to provide members with books through the Traveling Library system. The State Librarian will furnish all needed information on application.

Farmers’ Institutes, Home Reading Circles and Traveling Libraries, are all children of the Grange, and as such should receive parental care and support from all our members.

AGRICULTURAL COLLEGE.

The farmers’ school, the State Agricultural College, is growing in practical usefulness each year. New lines of work are being taken up in accordance with the changes that take place in our agricultural operations, and the advanced ideas of our farm people. Co-education, the establishment of which, at the college, was accomplished through Grange agitation and influence, is a success. Instruction in butter making and the recent establishment of a short course in cheese making, with the assistance of scientific appliances, are in answer to the demands of the increased dairy interests of the State. There is already a demand for butter and cheese makers, skilled in the use of recently invented scientific utensils, and holding diplomas from these dairy schools.

The plan adopted by the college, whereby the results of all experiments are seasonably sent out to all farmers upon application in bulletin form, is commendable as being the most practical method for thorough and direct dissemination of these findings. Every Grange in the State should receive regular supplies for distribution among the members. It is plain to see that the college is growing in favor among farmers. This will doubtless result in increased attendance and greater usefulness.

ELECT U. S. SENATORS BY DIRECT VOTE.

Our demands for the election of United States senators by direct vote of the people should be continued without discouragement. Final success in work for other reforms proves that in time the people will succeed in having this healthy reform adopted. The question of justice and clean government are back of this movement. To realize that men are nominated or defeated in primary caucuses and nominating conventions that lead to the State legislature, at the dictation of a candidate for the United States Senate, entirely disregarding State legislation and fitness of men, is too near one man power to be long tolerated by the American people. In a country like ours, where the voice of the people is the power supreme, we may rest assured that this change will come.

POSTAL SAVINGS BANKS.

Among the reforms now being advocated in the interest of the mass of people, is the establishment by the government of a system of postal savings banks. Absolute safety and convenience to the people, thus encouraging thrift, and bringing large amounts of money into circulation, now hidden, because of the distrust in ordinary monetary institutions, are the arguments made in its favor. Postmaster

General James A. Garey advocates the system. The National Grange unanimously endorsed it. It is here presented for consideration, so that an expression thereon by the Grange may follow.

GOOD ROADS.

The question of good roads is far from settled and will continue to interest the people until some improved changes are made.

The conditions of country roads so directly affect the results of farming that it becomes a very important question. It would be well if Granges take steps to inform their members on this coming question, to the end that they will be able to consider and act wisely in the line of their best interests, instead of complainingly looking on while others fix some new regulations upon them in accordance with some untried theory and regardless of the cost to those who must pay the bills. Our road system is faulty, now that the country is so much improved, but it should be perfected by those directly interested in the expense and business use of the roads.

RAILROAD PASSENGER RATES.

Many changes in old established methods and regulations are being made from time to time in answer to the requests of different interests and persons, and it behoves farmers to keep close watch to prevent the adoption of laws, local and state, that will give special advantages to the few at the expense of the many. In this connection, the attention of this body is called to the question of railroad passenger rates through mileage books and other special provisions. Concessions through these methods are made, in the main, to the benefit of the constant traveler, and are not available or practical for the use of the occasional traveler, and who does not make repeated trips over the same territory. Mileage regulations may operate as a barrier to prevent general lower rates for the benefit of the public and may thus assist in establishing an unjust discrimination against a class of people who have contributed and sacrificed more for railroad building than all others, and who now furnish by far the greater part of the business to maintain the roads in operation.

In view of a possible unfair adjustment of the question of railroad passenger fares, the earnest consideration of this body is called to consider whether or not it will be wise for the farmers of the state to unite in a memorial to the next Legislature, asking the establishment of a general two cent per mile railroad passenger rate. This rate prevails over the eastern states, and it is not probable that the "Star of Empire" in this case will move on to the west very rapidly unless our people act to accelerate its movement.

THE FARMERS' DUTY.

In calling your attention to some of the foregoing questions, I desire to add that it is the order of the day for the different interests and people to seek special advantages, oftentimes not inquiring whose welfare is imperiled thereby. The wonderful opportunities offered ambitious men by the swift development of our great country, have brought on this friendly contest for special advantages, and if farmers desire and expect to secure and maintain just privileges and rights, they must arise to the situation and be alert and doing.

They have the power and the machinery of organization through which to act. If they falter and rest in quiet composure, no complaint should be made of that which follows.

AGRICULTURAL AND GRANGE PRESS.

The usefulness and power of the press in advocacy of any given principle or work, is well known to all. The Grange that fails to, in some way, encourage the presence of Grange reading in every family of its membership, is not living up to its full duties.

The Michigan Farmer now contains a two-page Grange Department conducted by Bro. K. L. Butterfield in a thoughtful and earnest manner. The department is yours to contribute to, to improve and to perfect. Through this medium every member of our organization may keep informed in Grange work, and at the same time have before him most valuable reading on all agricultural topics. Every Grange should commence the new year with club lists for this valuable paper.

In this connection it is but just to recognize the friendly spirit and valuable service rendered by the Michigan Fruit Grower and Practical Farmer, published at Grand Rapids, in conducting a very readable Grange Depart-

ment under the care of Bro. Melvin S. Smith, of Talmadge. We hope for its success and a liberal patronage.

AGRICULTURE.

To present a general address to the State Grange, and be silent on the great question of agriculture, would seem to be an evasion of duty. Because of the needs of this foundation interest, and the people who work and live as a part of it, the organization that you represent on this floor was called into being.

It is a favorable omen that our country is awaking more and more to the importance of agricultural prosperity. But a few years since, all other interests were considered first and at length, while that of agriculture was fortunate to receive notice by title only. This was doubtless the result of indifference on the part of the farmers of the country. That agriculture now receives earnest consideration, is no doubt because of organized effort, and foremost in this work has been, and now is, the order of Patrons of Husbandry.

Agriculture is just now in an embryo condition. The partial change in governmental policy has not yet developed sufficiently to know its full effects in operation with the constantly changing conditions in our own and other countries. We should, however, hope for the best and should encourage hope always. During several years past, we have witnessed a general decline in agricultural investments until a condition was reached that made the stoutest hearts waver. Economic physicians widely, and no doubt honestly, differ as to the cause. We cannot reasonably say that the one is wholly right and the other wholly wrong, for all are citizens of our common country, and no doubt wish for its full success.

In the discussion of all great questions extremists are liable to trespass upon untenable ground, while the real truth is most likely to be formed half way between the contending parties. This is probably true in the solution of the present agricultural problem. As farmers we should therefore exercise charity and forbearance with all our brother farmers and others who honestly differ from us. I need not tell you that this is in direct line with the teachings of the Grange, for so it is.

It is fair to say that a generally better feeling exists among farmers than when last we met, because of better prices for a part of their staple products. As to the cause of the higher prices for some commodities and lower for others, I will leave for partisans to settle. The probable truth, however, is that the inexorable law of supply and demand, influenced by tariff on imports, in some cases, and unavoidable foreign competition, in other cases, cover the main causes.

Farmers are awaiting patiently and expectantly. The pessimist and the optimist are still in the land, and each are misleading in their influence, while neither can change existing conditions. Of the two, the optimist may do the most harm, by encouraging extravagance and fitful booms, which are liable to collapse with disastrous results. Let all be of good cheer, study well your diversification of crops, read liberally, and think closely, and work with fellow farmers for the general good of your calling, and in due time, we will be rewarded with that love and attachment of our occupation which comes only from satisfactory profits.

THE EDUCATED FARMER.

Portion of an oration by Perry G. Towar, before a social meeting of Capitol Grange, No. 540.

Over 50 years ago, when the elk, the deer and the bear roamed at will over this great State of Michigan, when the wolves and the Indians made this country as a vast wilderness, a howling success, when the sound of the woodsman's ax was the first audible sign of civilization, then was farming in this vicinity in its infancy.

The trials and hardships endured by the pioneers of those early days, would be difficult, indeed, for us to endure now. Just imagine ourselves going ten or fifteen miles to a Grange meeting, with an ox team and a lumber wagon—minus the spring seat—traveling over those corrugated corduroy roads expecting to return by milking time.

The farming tools used in those days were rude and simple in construction, requiring only horse sense and muscle to manage. The school system was very imperfect. The teacher of those days could not show a higher grade of intelligence than the average 14 year old scholar of to-day.

There has been a change; just when and where this change took place it is difficult to ascertain, but by comparison a lapse of 50 years shows to us a wonderful improvement in every department of agriculture, and a constantly increasing demand for intelligence in every act that goes to make up the farmer's life.

Years ago "any old" horse or cow would do, but now one has dozens of breeds to select from, each having its advantages and adaptabilities to different purposes, so that the successful stock raiser must keep well posted and up with the times that he may not be outclassed by his competitors. The old "armstrong" machines have been replaced by a more complicated class of machinery, which requires something besides a strong arm to care for and manage. The fertility of the soil has become lessened by constant use, and needs enriching. When and where to apply fertilizers is not the work of an ignoramus. The demands of society, the school, and the church make it almost compulsory that the farmer be better informed. He is often called upon to manage public affairs, so that again his intellectual powers are of great advantage. The thousands of miles of railroads in this country have seemingly brought the market nearer to the farm; and the farms nearer to each other, which increases competition, and requires more skill, tact and energy on the part of the farmer. The opening and developing of the western lands has increased the acreage of farm products in a much greater proportion than the population has increased, thus increasing production more than consumption.

Every way one turns he sees the necessity of more brain power upon the farm. There is a demand for a higher grade of intelligence among the farmers.

How is this to be obtained? To the boy, or the young man, the problem is easily solved; close application to study in school and college will enable him to master these difficult questions. To the older ones it is a more difficult matter. Thanks to the wise legislature that made it possible for the Michigan Agricultural College to grow to its present proportions and usefulness. This college, which has been copied by nearly every state in the Union, is endeavoring to furnish just such knowledge as the farmer needs to better his condition and now that the government appropriates annually a certain amount of money for the purpose of carrying on agricultural experiments it has become the greatest institution in the world for the education of the common farmer. How many appreciate what is being done for us. I dare say there are men whose farms adjoin this college, who cannot name one experiment that has been tried there in the past ten years. Yet it is their own fault for they have only to send their names and addresses to the secretary of the College, and they will receive the bulletins regularly, and free of charge.

The value of this institution to the farmers of the State of Michigan cannot be overestimated, yet there are ignorant farmers, and men who are enemies to agriculture, who are trying to tear down this institution of ours, and which has done more to educate the farmer and elevate the occupation than all other influences

combined. They talk of fossilized instructors. What a Godsend to the farmers of this State, and to society in general, if we could have a Kedzie or a Beal in every county of Michigan. But it is to be regretted that there is but one of each in these United States, and we can congratulate ourselves that they are connected with our own Agricultural College.

The farmers' institutes are another class of educational institutions which the farmer should not overlook. At these meetings some of the ablest writers of the day may be heard, subjects of vital interest are discussed, interesting literature is distributed, and a general good time enjoyed.

The Grange is a very important factor in agricultural education. It endeavors to improve the intellectual part of the farmer by discussing subjects of common interest which pertain to the farm, either directly or indirectly. It tries to increase the profits of the farm by inculcating economic ideas; it strives to make farm life a pleasure instead of a drudgery, so that the sons and daughters will love the farm, and follow in agricultural pursuits; it aims to add more dignity, morality and virtue to farm life that the farmer may rank among the highest class of people in the world.

The Farmers' Club is another society of farmers which should not be overlooked in this connection.

There is agricultural literature galore which can be had for the asking, and papers and periodicals at a very low cost.

I tell you, brother farmers, we do not make the best of our opportunities; we do not appreciate what is being done for us; we do not take advantage of the means we have for elevating ourselves and our profession.

Let us associate together and glean from each other what knowledge and experience we can, thus making ourselves and our families better, happier and more contented with our lot.

ON SCHOOL MAINTENANCE.

From the Report of Committee of Twelve.

I. REVENUE.

1. The great resource of the public schools is, and must continue to be, some forms or forms of public taxation.

2. Such areas or units of taxation should be created, or continued if already in existence, as will fully develop the sound American principle that the whole wealth of the state shall be made available for educating all the youth of the state.

3. To accomplish this end, resort must be had to the larger units of taxation, especially where population is sparse and wealth meager. The following recommendations must be specifically urged; (1) a liberal provision of funds from the state treasury; (2) a county tax in at least all the county-system states; (3) a town or township tax in the states where this civil division exists; (4) taxes in special districts, that is, in cities and villages. The school district, in the commonly accepted sense of that term, is not a desirable taxing unit, but quite the contrary, and should be abolished as such unit.

II. DISTRIBUTION.

1. Funds raised by the large political or social units for general school purposes should be distributed in such a

(Continued on page 40.)

FOR 30 DAYS YOU CAN TRY IT FOR 25 CENTS.

RHEUMATISM 42 YEARS!

Spent Hundreds of Dollars Trying to Get Well, But All In Vain, Used "5 DROPS" for Two Months and is Now Completely Cured.

Thousands of Grateful Letters Received of which the following are samples:

Grinnell, Iowa, Nov. 17, 1897.
Regent, Ill., Nov. 12, 1897.
SWANSON RHEUMATIC CURE CO., Chicago, Ill.: GENTLEMEN: I will state that I had the Rheumatism over 42 years. Spent over \$600.00 in trying to get well, but all in vain, until my brother-in-law gave me one bottle of "5 DROPS" on trial last June. I used it for two months, and I am now a well man. I certainly believe it is all you claim for it, and fully worth the money to anyone. I hope the public will benefit by my statement of my own case, and anyone wishing to write me will receive an answer.

N. WITTAMOTH.

As a positive cure for Rheumatism, Sciatica, Neuralgia, Dyspepsia, Backache, Asthma, Hay Fever, Catarrh, Sleeplessness, Nervousness, and Neuralgic Headaches, Heart Weakness, Toothache, Earache, Croup, Swelling, "La Grippe," Malaria, Creeping Numbness, etc., etc., "FIVE DROPS" has never been equalled.

"5 DROPS" taken but once a day is a dose of this great remedy and to enable all sufferers to make a trial of its wonderful curative properties, we will send out during the next thirty days 100,000 sample bottles, 25c each, prepaid by mail. Even a sample bottle will convince you of its merit. Best and cheapest medicine on earth. Large bottles (300 doses) \$1.00, for 30 days 3 bottles for \$2.50. Not sold by druggists, only by us and our agents. Agents wanted in new territory. Write us to day.

SWANSON RHEUMATIC CURE CO., 167-169 Dearborn St., CHICAGO, ILL.

way as to bring the rich and the strong to the help of the poor and the weak.

2. Such rules of distribution should be adopted as will accomplish this end. In order to do this, distribution must be based, to a certain extent at least, upon fixed or arbitrary units; that is, so much money must be given to the school or to the teacher.

3. The large taxing units should render assistance to the small ones only upon the condition that the small ones first do something for themselves.

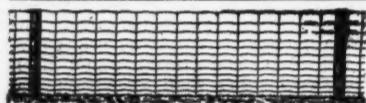
III. ORGANIZATION.

1. In the states where the town or mixed system of local government exists, the town or township school system should, as far as practicable, be substituted for the district system; in the county-system states the county-school system is the natural alternative to the district system.

2. In those parts of the country where existing physical and social conditions render it practicable, there should be such a consolidation of rural schools as will diminish the existing number of schools, schoolhouses and teachers, and bring together, at advantageous points, the pupils who are now divided and scattered among the isolated schools of the township or other similar districts.

3. There is urgent need of lengthening materially the time that the country schools, on the average, are in session each year. The ideal should be a minimum school year in every state of at least 160 or 180 days.

When writing to advertisers please mention that you saw their advertisement in the Michigan Farmer.



The Locomotive Engineer

must have an eye out for signals. One need not watch the thermometer on account of his Page Fence. Rain or shine, fever heat or zero weather, "the coil is in it," and keeps it tight.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



GOSHEN LOW WAGON WHEELS

have wide tires— $\frac{3}{4}$ to 6-in. Just see how it's made—layer upon layer of kiln dried Indiana White Oak, cut wedge shaped, grain running from hub to tire. Look how it's riveted. Look at the broad flanges with bolts running through them.

KELLY FOUNDRY & MACH. CO., 15 Park St., Goshen, Ind. Circulars &c. free.

LET THE WIND BLOW WHILE YOU SOW



SOWS 12 Feet. 14. 16. MICHIGAN SEEDER, for it will drop the seed evenly in every respect. Just the same. An up to date machine. Write for catalogue.

SEEDER & HAMMOCK CHAIR CO. 6 Depot St., Homer, Mich.



free. F. C. AUSTIN MFG. CO., Chicago, Ill.

THIS BEATS A DROUGHT

No matter how dry the weather or what the crust is composed of, you can get seed watered in any soil, everywhere, with one of our STAR DRILLING MACHINES. They are better than others. Why? Listen—No spring, no cog gearing, long gear, and over size steel frame, minute, true, rodded axles, mounted on best wheels, boiler with flues in boiler waste, reverse link engine, 9 sizes. Full line tools, supplies. Send for free catalog. STAR DRILLING MACHINE CO., AKRON, O.

GROUND FEED

more economical & produces better results than whole grain. STAR Feed Grinders prepare it in the best and cheapest way. Grind all kinds of grain single or mixed. Grind canary, dry, damp or green. Circuits of Steam and Sweep Mills free. STAR MFG. CO. 11 Depot St., New Lexington, O.

Second Hand Material
for every description; also new material procured from shippers, assignees and receivers' sales. Barbed wire, smooth wire, Nails, Iron Roofing, Water Piping, Pig and Sheep Troughs, Hoses, Lumber, Casing, in fact almost everything. Big reduction from usual prices. *EP Catalogue FREE* on application.

THOMPSON'S WHEEL-BARROW GRASS SEEDER



Catalogue free.

O. E. THOMPSON & SONS, 25 River St., Ypsilanti, Mich.

A Ten Acre Lot

is a beautiful plot after being worked with a "Planet Jr." 12 tooth Harrow. It will cultivate it better than any other implement under the sun, and in half the time. It cultivates deep or shallow, wide or narrow; prepares the ground for seed drilling and plant setting; has an attachment for cutting strawberry runners and a dozen distinctive features indispensable to the farmer and the berry grower. The "Planet Jr." Book for 1898 describes a score of tools belonging to the "Planet Jr." Family. It's a veritable revelation in labor saving devices and should be read by every man who plants for profit or for pleasure. Sent free to anyone anywhere. Will you have it?

S. L. ALLEN & CO., 1107 Market St., Philadelphia.

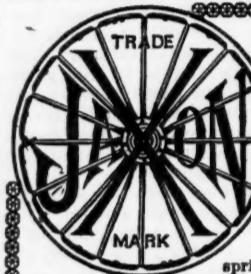
OUR TREES

Union. Forty-three years of square dealing has made us patrons and friends far and near. Have hundreds of carloads of

FRUIT AND ORNAMENTAL TREES, SHRUBS, ROSES, PLANTS.

We send by mail postpaid Seeds, Bulbs, Roses, Plants, Small Trees, Etc. Safe arrival and satisfaction guaranteed; larger by express or freight. OUR CATALOGUE, an elegant book, magazine size, profusely illustrated tells it all. FREE. Send for it today and see what values we give for a little money. 44th year. 32 greenhouses. 1000 acres.

THE STORRS & HARRISON CO., Box 221, Painesville, O.



BUGGY WHEELS

Ready to put on the buggy and drive away. Best selected hickory, steel-tired wheels; each spoke alternated with a bolt; hubs fitted with the right boxes for your axles; best finish, perfectly and thoroughly painted colors, black, Brown, etc. Same wheels unpainted, but primed with best lead and oil, with boxes set in hubs (or with hubs reamed out ready to drive in boxes), less than the cost of repairing old wheels.

Wheels for buggies, carts, surreys, phaetons, light spring wagons. We can sell you new axles also.

JACKSON WHEEL CO., JACKSON, Mich.

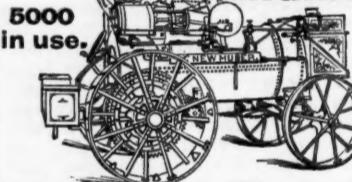
Howe Scales



The United States Standard.

Over 500 Styles and Sizes. Scales of every kind for every purpose. Accurate, Reliable, Durable. Write for free catalogue. Mention this paper. BORDEN & SELLECK CO., 48-50 Lake Street, CHICAGO, ILL.

THE NEW HUBER TRACTION ENGINE



5000 in use.

Winner in all practical tests at World's Fair. All sizes, both simple and compound. Ask for Catalog.

THE HUBER MFG. CO., Box 6, Marion, Ohio.

THE LEFFEL ENGINES



JAMES LEFFEL & CO., Box 1806, Springfield, Ohio.

VICTORY Feed Mill

Grinds Corn and Cob and all kinds of Small Grain.

Made in four sizes, for 2, 4, 8 and 10 horse power. Send for catalog and prices.

THOS. ROBERTS, P.O. Box 81, Springfield, O.

Send for catalog.

STAR MFG. CO., 11 Depot St., New Lexington, O.

For free catalog. STAR DRILLING MACHINE CO., AKRON, O.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

DUANE H. NASH, Sole Mfr., 1 and 30 So. Canal St., Chicago.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.

Illus. pamphlet mailed free.

Mention this paper.

D. N. P. BOWERSHEE CO., Box 100, Bend, Ind.

Illustration of a feed mill.</